

University of Agder  
Master in Global Development and Planning -  
Development Management Specialization  
**UT-503**  
**Master Thesis in Global Development and Planning**

**Candidate Number:4893**

**Supervisor: Professor Sven Åke Bjørke**

Deadline: June 1st, 2017

**Higher education impact on human  
development: A case study from Pakistan**

I/we confirm that I/we do not refer to others or in any other way use the work of others without stating it hence I/we confirm that all references are given in the bibliography.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
---	---	-----------------------------

*Copying text written by other people or using the work of other people without cross-referencing, may be considered as cheating*

## Contents

Abstract .....	v
Chapter 1 .....	1
Introduction .....	1
1.1 Human development and Higher education .....	1
1.2 human development index with sustainable development .....	6
1.3 Objective of the study.....	7
1.4 Research gap .....	7
1.5 Significant of the study.....	8
1.6 Limitation of the study .....	8
1.7 Study Plan .....	8
Chapter 2 .....	9
Literature Review .....	9
2.1 Introduction to literature.....	9
2.2 Literature review .....	10
2.2.1 Higher Education in Pakistan .....	10
2.2.2 Progression & Operation of Higher Education in Pakistan .....	13
2.2.3 Higher Education.....	13
2.2.4 Need for Higher Education in Pakistan .....	15
2.2.5 Women Empowerment.....	17
2.2.6 Benefits of availing Higher Education .....	19
2.3 Human development indicators.....	21
2.3.1 Economic Growth /Income.....	21
2.3.2 Economic uplift & Pakistan.....	22
2.3.3 Life expectancy .....	26
2.3.4 Employment .....	29
2.4 THEORETICAL FRAMEWORK.....	31
2.4.1 Human Capital Theory (HCT).....	31
2.4.2 Hypothesis Development.....	33
2.4.3 Research Hypothesis .....	36
CHAPTER # 3.....	37

RESEARCH METHODOLOGY .....	37
3.1 Research Purpose .....	37
3.1.1 Descriptive Study .....	37
3.1.2 Explanatory Study .....	37
3.1.3 Exploratory Study.....	37
3.2 Research Approach .....	38
3.3 Research Design.....	38
3.4 Data Type .....	39
3.5 Data collection.....	40
3.6 Definition of Variables.....	40
3.7 Reliability and Validity .....	41
3.8 Ethical Consideration .....	41
3.9 Data Processing .....	42
Chapter 4.....	43
Statistical Analysis and Discussion.....	43
4.1 Analysis.....	43
4.1.1 Descriptive statistics.....	43
4.1.2 Correlation analysis.....	44
4.2 Results of Estimation .....	45
4.2.1 Model 1 (Impact of human development on literacy rate) .....	45
Table # 3 Results of Model 1 .....	46
4.2.2 Model 2 (Government Higher Educational Expenditure Vs Human Development) .....	47
4.2.3 Model 3 (Enrollment in Higher Education and Human Development).....	49
4.2.4 Model 4 (Economic Growth and Higher Education).....	51
4.2.5 Model 5 (Economic Growth relationship with Life expectancy and Employment) .....	54
4.2.5 Model 6 (Enrollment of male and female depend on educational expenditure, GDP and literacy rate) .....	55
4.3 Summary of objectives.....	57
Chapter 5.....	59
Conclusion and policy recommendations.....	59
5.1 Conclusion.....	59
5.2 Policy Recommendations .....	61
5.2.1 Vocational training and education.....	61

5.2.2 Improve woman literacy rate.....	61
5.2.3 Outdated educational system.....	62
5.2.4 Educational expenditure.....	62
5.2.5 Scholarship schemes.....	62
5.2.6 Investment in higher education.....	62
5.2.7 Awareness programme.....	63
References.....	65

## Abstract

*Higher education is considered as an essential part of the human development process of the country. In this context, the objective of this study is to explore the returns of higher education on human development indicators and as well as examine the impact of human development on higher education in Pakistan from the period of the 1984 to 2014. For estimation, correlation analysis and regression analysis has been used to investigate the association between Variables. The main purpose of the study is to identify the link between higher education and the three most important human development indicators, such as GDP, employment and life expectancy. To this end, the impact of the enrollment in higher education on human development has been analyzed. This research concluded that there exists a positive connection between human development and higher education. The higher level of GDP, life expectancy and employment accelerate the literacy rate and enrollment in higher education. In this study, we try to analyze the trends in education, strategies and challenges of higher education and its role in overall development in the country. In addition, the study is also of the opinion that a well-trained workforce substantially resembles economic growth. This research also has a number of consequences suggestion for the policy makers to developing higher education in order to counter the use of educated manpower in different sectors of the economy.*

**Keywords:** Pakistan; Higher Education; Economic Growth (GDP); Employment; Life expectancy; Time Series Analysis.

## Chapter 1

### Introduction

#### 1.1 Human development and Higher education

Higher Education is considered as an important instrument for promoting economic growth and development of the country. It plays a vital role in building human capabilities and accelerates economic growth through knowledge, skills and creative strength of society. The higher education is not only important for the national economy, but individuals also benefit from it. It is natural to assume that opportunities for employment increase in accordance with the level of education a person holds. Similarly, the level of income is likely to correspond to a certain degree with the level of education. For Pakistan, where growth is essential if the continent is to climb out of poverty, education is very important factor. For last several decades, Pakistan puts greater emphasis on primary and, more recently, secondary schooling. But they have neglected tertiary / higher education as a means to improve economic growth (Memnon, 2007).

There exists a connection between higher education and human development. The interdependence between human development (health, employment, and per capita income) and education is an important reason why both factors have a decisive impact on a country's development. Better health is likely to raise the return on investment in education as fitness is an on the earth significant factor in school attendance and school performance. Life expectancy is directly affected by the amount of schooling and with family income. According to Historians the life on the earth goes back to 2 million years. At that time the number of people was very few. There is an increasing tendency in life expectancy at world level in the recent years. However, the rate is different in different countries. The rapid population growth is primarily the result of a rapid transition from high birth rate and death rate. In this condition the death rates have fallen sharply, but birth rates, are just beginning to fall from their highest level.

It is a renowned fact that higher education is the most effective tool to increase the human capabilities and productivity, which is helpful in achieving the desired outcomes of economic growth and development. In this way, higher education has always been considered an important factor for socio-economic and development reasons of any nation because it has an ability to raise the quality of human life and capital (Ranis, 2000). The development of the country depends on different factors such as the development of people and organization of human

activities. Capital accumulation, natural resources, the assistance from countries and international trade, etc. play a vital role in economic growth, every factor is important but the man's power, and high education is a decisive factor for human development (Stathopoulos, 1988).

It is widely accepted that education contributes considerably to economic development. A well developed and equitable system of higher education promotes quality of learning as well as teaching and research that is central to success in the emerging economy (McGrath, 2010). The role of higher education is not confined to increase the economic development of nations and providing opportunities for individuals. It also promotes the cultural diversity, political democracy, and trade. In other words, higher education can provide better society and the higher education also promote international cooperation (Ortega, 2010).

Economic growth and social development have been under an enormous pressure through various development policies. The shortage of skilled human resources has been a constraint for accelerating and sustaining development. To meet the demand for economic and social development, the focus has to be the development of people's resources. And this challenge of human resources development has to be of national concern through policy-making and implementation (W. W. McMahon, 1999). Issues regarding the improvement of the human wellbeing have been on the political agenda worldwide (Allen & Thomas, 2000).

Various initiatives press the need to improve human comfort and entice human development. Short-term and unsuccessful attempts for development have enforced the emphasis on sustainability. If the government pays more attention to provide better health and education facilities to the people, then it will lead to increase the gross domestic product of per capita income of the country. Higher GDP means prosperity, and it also means that resources are properly utilized that leads to higher literacy rate in the country (Eddison, 1998). Human development includes an increase rate of life expectancy which is possible in the presence of the higher health facilities available to the citizen of the county. It is well admitting the fact that life expectancy is putting a positive impact on the economy of the country. Higher life expectancy means people have good health which increase the productivity. Having good physical condition, people can perform well, putting a promising impact on the economy (Dowd et al. 2015).

In Pakistan the education system is affected by the social inequalities. Social inequalities of the

past were, and are, deeply embedded and reflected in most spheres of social life and have left its mark on the educational system. Social, political and economic inequalities of race, gender, institutional and spatial nature, have shaped, and continue to shape higher education in Pakistan. Unequal access to and lack of equity in the educational system was a well-known fact and presently an issue of concern in Pakistan (Nawab & Bhatti, 2011).

Education is a factor which is to promote increased standards of living and to reduce inequality. So the government of Pakistan has taken several steps to improve education sector. According to the Pakistan Education Statistics 2007-08, a total number of new institution increased to 7,242 in a year which has raised the total number to 231,289 in the country. Out of total institutes, 164,579 are in public sector and 81,103 in the private sector. The government has taken several significant initiatives for improving the educational skill of the teachers, and the government is also trying to boost their professional development. At higher levels, the training services has been provided by higher education commission to 3,726 staff members of different universities. The Executive Committee of National Economic Council (ECNEC) approved a project under the provision of the Canadian International Development Agency (CIDA) Debt- Swap which costing Rs. 669.556 million for the purpose of promotion of teacher training and capacity building of teacher training institutes in ICT, FATA, FANA and AJK (Aziz,2008).

In Pakistan, there is a large number of talented employees or manpower, but they have been facing a lot of problems as due to insufficient research and development (R & D), a large number of highly qualified and educated people leave their career for a better career in developed countries. To overcome these problems, the government has taken several steps to improve faculty, promote access/participation and excellence in knowledge and research at a higher level. Availability of scholarships plays a vital role for the betterment of the country as it is helpful in promoting Human Capital. Therefore, the government has launched scholarship programs at Federal and Provisional level. Currently, 3,237 scholars are studying (under PhD Scholarship Program) in HEC recognized universities in the past four years (Abbasa & Qaisar, 2007).

For the sake of improving the research and development in different sectors, the foreign scholarship has been introduced in Pakistan. Especially, the foreign scholarship program is very helpful in the field of engineering, technology and applied science. The higher education commission has sent 2,600 scholars for studies abroad under the Ph.D scholarship program up to



2007-08. 69 researchers proceeded abroad under Cultural Exchange Program of the year 2007-08. It is well admitting the fact that the educational system of Pakistan is not up to the mark. It is backward or orthodox and needed to be upgraded. In this context, it is an appropriate step of the higher education commission to introduce the international scholarship program. The higher education commission has sent 366 students for undergraduate medical studies (MBBS equivalent) in the year 2006-07 with 20% seats allocated to the earthquake affected areas. The higher education commission has taken this step in collaboration with the Cuban Government. The students are getting higher education from the institution of the developed countries. These students are an active agent for the society, and they can perform actively and productively which in turn will boost the economic performance of the country (Kakar et al. 2011)

Government spending on social and community services put promising impact on the economy. The government spending on education will have the effect of removing so many social and economic backwardness of the country. Public expenditure on education will have the effect of increasing the employment level of the country. In the context of increasing the level of literacy, the government of Pakistan has been granted charters of 17 new universities. It is the objective of the government of Pakistan to spread education in the less developed areas of the country. Therefore, 23 new and advance disciplines were launched. Furthermore, 11 foreign institutions were allowed to operate in Pakistan through franchising/ collaborative arrangements with local institutions of higher education. The government has established four Universities of Engineering, Science and Technology in Pakistan (UESTP) with the collaboration of Germany, Austria, France and China at a total cost of Rs. 164.869 Billion. Three additional universities are to be established in other regions of the country. To, include support the conduct of truly world-class research, more than 20 Central Research Laboratories have been established in major universities (Easterly, 2001).

As human development index include gross domestic per capita income, employment and life expectancy. Whereas, it is well admitting that life expectancy is highly influenced by the macroeconomic factors. The purchasing power of the people decreases in the presence of the inflation. It means that households have less financial resources to get better health facilities which put a negative impact on life expectancy. Poverty is a multi-dimensional concept which comprises lack of access to better health services, a low degree of literacy, a low level of per

capita income and scarcity of basic human rights and security. All these macroeconomic factors are responsible for decreasing the level of life expectancy.

It has observed that if the majority of the people in UNDCs especially in the case of Pakistan remains impoverished, uneducated and physically and psychologically weak the family consideration as a source of social security will remain operative. All these factors are putting an adverse effect on the rate of life expectancy. There is a strong association between healthcare facilities and economic prosperity of the country. In this regard, resources must be properly allocated, and there should not be any misuse of the financial assists. (Jalal-ud-Din, M,2014).

Pakistan is one of the developing country, and it has been facing a lot of the social and economic problem over a long period of time. Pakistan is confronted with the problem of the low life expectancy, low per capita income, unemployment, increasing income inequality, adverse health facilities and high level of illiteracy rate. The economic miseries are rising which deteriorates the life expectancy in Pakistan. (Shahbaz et al.,2016).

The condition of the healthcare facilities is very disappointing in the case of Pakistan. This disappointing scenario is due to the extremely low budget of healthcare over the last 60 years. It is alarming to note that expenses on healthcare facilities are not according to the requirement. The health budget was just 0.5 to 0.8 percent of Gross National Product during the period of 1970 to 2007 in the case of Pakistan. As compared with other developing country, the government of Pakistan spends low percentage of its GNP on health facilities. The government of Pakistan spend 0.6 percent of its GNP on health care during 2006 to 2007. Along with minimum amount reserve in budget for health care, the delivery of availability of healthcare facilities is also not efficient. Moreover, the healthcare services in the rural sector are the most ignorant part of the policymakers. On the other, special attention is given to medical colleges, healthcare facilities and hospitals of the urban areas which lead to increase inequality and injustice. All these factors are responsible for low level of life expectancy (Akram et al., 2008).

In this way, this study investigates the association between higher education and human development indicators. The higher education includes government, educational expenditure, literacy rate and enrollment in higher education. This basic aim of this analysis is to elaborate the importance of higher education and its consequences on the society. In this regard, the educational sector should not be neglected because it is expected to put a positive impact on the

economy. It is the responsibility of the administration to improve the education system of the country, but, in some case, government objective alters the policy regarding human development. On the other hand, human development indicators encompass gross domestic product per capita income as a proxy for economic growth, life expectancy as a proxy for age and employment. There exists a positive association between human development and higher education. With the help of accurate knowledge, creative strength and skill the productivity of the citizen increase on a high rate which is essential for sustainable growth.

## **1.2 human development index with sustainable development**

The rationale for selecting this topic based on this objective is that higher education initially is assumed to be an important factor for sustainable human development. The World Bank (2002, 2006a, 2006b), UN (2004), and others argue that higher education is essential for achieving sustainable development. The environmental and demographical structures of Pakistan are also rationales levels and contrast the geographical differences on education and human development.

The idea of sustainable development was introduced by the world commission on environmental development conference (WCED). Sustainable development pursues to meet the needs and ambitions of the present generations, without compromising the ability to meet those of future generations. In this regard, higher education is a critical agent of transformation regarding changing the whole living standard of the citizen, attitude, and performance. The role of higher education in pursuit of Sustainable Development is essential. Sustainable Development is related to the environmental issues and its solution in a broader perception. The sustainable development includes social, political, cultural and economic aspects. These characteristics of sustainable development are a part of human development. If the living standard of the citizen increases the sustainable development will also accelerate. In this way, the role of higher education has considered as an essential aspect of sustainable development after the Kynoto declaration on sustainable development in 1993. There is a general perception that higher education and research institution can play a significant part to ameliorate the situation of sustainable development. The higher educational institutions can play their part for promotion higher education for the sake of getting sustainability (Mughal et al. 2011).

### **1.3 Objective of the study**

The core objective of the study is to investigate the association between higher education and human development indicators (gross domestic product per capita income as a proxy for economic growth, life expectancy, and employment) by using the time series data covering the period of 1984-2014 for Pakistan. The followings are the specific objectives of the study:

- Explore the relationship between higher education and three different human development indicators; income (GDP as a proxy for income), life expectancy, and employment in Pakistan.
- Find out the relationship between economic growth, employment, and life expectancy
- Examine the impact of human development indicators in higher education
- Examine the impact of higher education on human development
- Investigate the impact of government, educational expenditure and literacy rate on the enrollment of both male and female in the higher education
- Find out the impact of higher education on employment

### **1.4 Research gap**

Higher education can put a promising impact on the economy, but, it has been observed that this topic is neglected. It is needed to discuss this aspect and also find out the consequences of higher education on the human development. It is equally important to check the impact of human development in higher education which is not given due importance. In this way, the sample data from Pakistan has been taken in this study because we have found limited work on higher education and human development in the case of Pakistan. Moreover, the rationale for choosing Pakistan in this study area is a combination of the unique historical background the country possesses and personal interest in the country. Despite the policy initiatives launched and a remarkable increase in the number and proportion of females in higher education institutions, the male population is far from closing the educational gap in Pakistan. An investigation of the connection between higher education and three human development indicators for the male and female population groups in Pakistan and any differences therein

will test and highlight higher education's assumed impact on human development.

### **1.5 Significant of the study**

Indeed, it is understood that higher education can lead to economic growth and development through both private and public channels. It is an important topic for any country to attain suitable economic growth. In this regard, the importance of this study increases. The main contribution of this research is to the academic field. Sharing these findings may help future researchers interested in examining the higher education impact on human development. The study can also help policy makers to improve the sustainability of HD to enable them to achieve both financial and social objectives of reducing poverty. Also, the findings will no doubt have main policy implications for the HD studied and those who may read this report. By better understanding, the factors practitioners will be able to adjust their policies to improve the index. In the long run, it may have a valuable impact on the overall sustainability of these institutions. The finding of this study is also helpful for the policy makers of the other developing nations because most of the developing countries have been facing same economic and social problems. To get the solution fore these social and economic problems, this study can be helpful.

### **1.6 Limitation of the study**

The study has a comprehensive coverage of some factors, which include economic, social and demographic factors. This study is limited to certain variables. It could have been better to take more variables to study the effect more effectively, but due to time limitations, it was not possible for the researcher to do this.

### **1.7 Study Plan**

The study is organized into five chapters. Chapter 1 is the brief introduction, giving a general idea of higher education and the indicators of the human development which include GDP per capita income, employment, and life expectancy. Chapter 2 is about literature review both theoretical and empirical. Chapter 3 deals with the information about sources of data, description of the variables and econometric methodology used in this study. Chapter 4 is a statistical analysis and discussion which is about the estimation of models and interpretation of results. Chapter 5 comprises of conclusions and policy recommendation.

## Chapter 2

### Literature Review

#### 2.1 Introduction to literature

Paul Wellstone, prior to US Senate the time in his address alleged that “*Education and Democracy have the similar goal; the complete possible growth of human abilities.*” Schooling and education is a chief right for every single being. It is the most important basis or building block, which concretes the future road-map for an individual. Education can rightly make or halt an individual, because it shapes and develops a person’s faith, trust and confidence in ideologies, morals, ethics and values.

Education stretches the ability to ponder with reason, pursue visions and objectives in life and live a decent reputable life in the society. Education provides us with a definite path to the trail, to lead our lives by values and gives us the liberty of expression. It liberates our minds from the preconceptions and inspires it to think with reason and purpose. It is essential for the inclusive development of the human cognizance and brain. The literacy percentage of a country regulates its prosperity and economic well-being.

The pros of education are many, but a few opinions have highlighted in our day to day actions and workings. It depicts how education aids in human growth from different facets – personal, social, financial and spiritual.

It has extensively acknowledged that education underwrites considerably to financial development. A fully developed and impartial scheme of higher education endorses the quality of knowledge, education as well as teaching and exploration that is the integral coin for achievement in the emerging economic development (McGrath, 2010).

Zamin in (2011) started undeniably that in current years the sphere has experienced the governance of learning organization standard, which is offering waves of hope with a colossal depth investigation, especially for those administrations competing in the tempestuous environment predominantly in developing states like Pakistan. It is more than precise to speak of that the education; the learning society is not a wishful rational, but a very potential path yielding to Sustainable Competitive Benefit (SCB). Other foundations of value establishment can be the initiative, but learning is somewhat that has catered as a consistent approach that cannot be

clichéd and so it is imperious – urgent. One needs to be deliberated before whatever thing because it is the time of pursuing advance learning awareness and explore new prospects with clear implications. The dilemma lies in the fact that Pakistan despite being a striving nation in the context of education has still obstructed by some societal norms and cultural hindrances that make educational progress nearly impossible to go up.

According to the fennel context of research, it was sorted out that the level of education is distinctively linked to the several human development factors such as age, employment, and health. In a mortal word, the need for these parameters is dire as they serve as evaluating actors for a cumulative wellbeing of an individual. Unlike previous times where getting education considered as a fundamental necessity for a male offspring and a luxury attainment for a female in today's world the system seems to work in an opposite direction. In this revolutionary era, women are equally involved in every sector, and are offering services ranging from medical to the governmental sectors. So the major question arises here that what pivotal percentage of women are in today's Pakistan participating and are there number higher when it comes to attaining higher education and fulfilling the standard parameters conformingly?

## **2.2 Literature review**

Based on thorough research, the number of papers enumerated below highlights the core relationship between higher education and human development. The report on Higher Education Commission specially provides with statistics and will be exquisitely used to explain the degree of association between the need for higher education for healthy human development. Once the backbone is built, based on these propositions further inferences can be derived along with a slid hypothesis to erect this study.

### **2.2.1 Higher Education in Pakistan**

According to World Bank Convention (2011), Education is central to the growth and progress of the human mind and soul. A mortal mind makes conceivable, all progressive achievements, from health improvements and agricultural revolutions to effective public management and private sector evolution. For states to reap these welfares, they need to uncheck the potential of the mortal mind. For that, there is no superior tool for assessing through than measuring literacy.

In history twenty years ago on a World Forum, administrative officials and growth partners met to confirm the immense need of education in advance—on economic growth and largely on improving the standard of lives—and composed professed Education for All as an ultimate goal to success. While admissions have risen in encouraging fashion around the sphere, learning ranks have persisted disappointingly, and many stayed behind. Because development, improvements, and poverty decline depend on the level of awareness, knowledge, and abilities that people attain, not a number of years that they sit in a schoolroom, we must transmute our call to act for the cause of \*Education for All\* to \*Practicing Education for All\* (Elizabeth, 2011).

Higher education policy is always providing a base for generating professionalism in a country. So as it is mentioned in The Times (2008), Higher Education Supplement world ranking for 2008. In Pakistan there are only two universities, which have got the status of being among the top 200 universities. There are only 11 universities in Pakistan which are among the top 1000 universities of the world as per to this ranking. Quaid-e-Azam University, University of Karachi, National University of Science and Technology and Institute of Space Technology are among them (Hussain and Asim, 2013).

Higher education is referred differently in each country, according to the Higher Education Commission in Pakistan, the higher education is the education which students attain after the grade 12. The age bracket of students is usually between 17 to 23 years. Basically, the higher education system of Pakistan has two main components one is universities or Degree Awarding Institutes (DAI) and second, is colleges that are affiliated with the universities. Colleges and universities get funding from the federal and provincial government and a major funding for higher education is received from the Higher Education Commission, Higher Education Commission (HEC) mostly provides funds to the public sector universities in all over the Pakistan, but HEC provide funds to private universities but in limited number mostly that are recognized by the Commission for research and development departments (The World Bank, n.d.).

Initially, Higher Education Commission did not work well as the number of universities were not according to the population of Pakistan as number of young people are increasing. But gradually the Higher Education Commission is increasing the number of institutes in Pakistan to increase enrollment and the number of graduates in Pakistan every year. At the time of independence of



Pakistan in 1947, there was only one university in Pakistan; Punjab University, Lahore and there were only 644 students were enrolled. The University of Sindh was also there, but it provided only admission services. From 1947 to 2007 the HEC has shown good growth regarding Universities and Degree Awarding Institutes as in 2007, there were 50 public universities, 9 public Degree Awarding Institutes, 37 private universities recognized by HEC and 18 private degree awarding institutes (Hoodbhoy, 2009). Total 114 universities or degree awarding institutes was established, and now there are 183 Universities, and Degree Awarding Institutes are established by HEC. Higher Education Commission opens admissions twice in a year, and it also provides distance learning to the students to make it more comfortable for students and increase the number of enrolled students.

Recently, the Higher Education Commission has gone through massive changes in its structure and policy reforms ((The World Bank, n.d.). The developments made by the Higher Education Commission are in the areas of management, quality, governance and access to the higher education. The Higher education commission has established the Quality Assurance Agency and Quality Enhancement Cell at Higher Education Commission. Various programs are launched to equip the existing and new faculty with high qualification. Then the tenure tracking system and new advance laboratories equipped with the scientific material are introduced. To increase the access, the Higher Education Commission has expended the existing infrastructure. Different measures are taken to increase the demand and supply of the higher education like the different modes of distance learning like e-learning by universities are introduced, and scholarships are given to deserving students of both public and private university's students for national and international universities (The World Bank, n.d.).

According to the HEC report (2016), the advancement in higher education sector has elevated by 19% for a period of 2008-09 as an increase in the higher education institutes have been observed. This increase is recorded as the most drastic one as compared to previous 86% of a country's growth in this sector over the last 60 years. Whereas according to the Economic Survey of Pakistan for 2010-11 to 2013-14 there has been an increase in student enrollment rates of about 44% with an annual growth rate of 13%. This rate has again been recorded enormous as compared to 2005-06 to 2009-10 where on average there has been an increase of 59% over five years with an 11% increase in enrollment per annum. The increasing figures are stunning as they went beyond expectations of MTDF HE II (Higher Education Commission, 2016).

Seeping into the history of HEC, the legendary body that shaped the named in Pakistan in the line of foreign competencies and largely improved the human living and moral standards was initially founded after the partition.

### **2.2.2 Progression & Operation of Higher Education in Pakistan**

Historically the degree of education post 12 years comes to the light of higher education. To keep track, HEC Pakistan was formally established. Accountability for a higher level of studies is duly shared between the federal administration and the provincial managements. HEC was recognized in 2002, substituting the University Grants Commission (UGC), which till then was accountable for higher studies under the decree of the federal administration. Ever since then all the valuable records, funds, foreign records of education are headed by this autonomous organization. HEC is an independent organization directly governed by the rule of the prime minister and has been invested in a lot, given a wide mandate to advance and indorsed higher education and exploration culture in the state. HEC acquiesces budgets regarding public sector institutes to the central administration and controls allocation of these resources. Among several other tasks, the Commission has accountability for policy preparation and formulation of guiding values for all higher teaching organizations.

The accomplishments of HEC have always remained rather unstable. The commission can be credited with the record of bringing several universities in QS ranking, but since that achievement currently there has been no new addition to the list and the existing ones are fluctuation there places down. Recently the commission too faced loss of funds that was invested in foreign students as many did not return to serve their homeland along with many other controversies (Tribune News., 2012)

Apart from usual university business, HEC is allocated to handle quality assurance affairs. It is responsible for designing reforms and address quality concerns when dealing with foreign export. This includes sanctioning the institutes of higher education and suggesting the terms and circumstances for the formation of private organizations of higher schooling (Batool, Z., & Qureshi, R. H. 2007).

### **2.2.3 Higher Education**

In a study conducted by Usman (2001) it was examined that Higher Education plays a vital role

in the expansion and progression of a nation. It airs at the necessities regarding education in the various constitutions of Pakistan and associates them with those in the structures of numerous other countries. The conclusions were that Pakistan would be well directed to re-look at legitimate provisions concerning in the establishment of Pakistan. Numerous problems touching higher education have been examined, and propositions offered of enhancement. The absence of quality in eminence in education was highlighted. Funding of universities, both government and secretive, along with the self-financing structure, was examined. The prospective of Higher Education through space learning was also looked at. The part of the University Grants Directive and a National Council Accreditation (NCA) and Quality Control (QC) was evaluated to conclude that recent reforms had a pivotal impact on the quality. On the whole, it presents policy suggestions, and a critical philosophical and conceptual image for the future, which is, nevertheless, realistic and practical, in the custom and spirit of Pakistan forefathers (Usman, 2001).

Higher education is renowned today as a capital asset and is of supreme importance for the financial and social growth of the state (Barnet, 1990). Organizations of higher education have the chief responsibility for preparing individuals with advanced information and skills requisite for positions of accountability in government, corporate, and several other occupations (Mughal & Manzoor, 1999). Quality stated higher education is a basis of great budding for the socio-fiscal and cultural growth and expansion of the nation. Stone, Horejs, & Lomas (1997) found “The state can be altered into a developed country within the lifetime of a single generation.” Aspects such as the characteristic nature of higher education establishments, the international agility of scholars, and teacher’s availability of computer founded learning chase of exploration, study and scholarship, globalization of frugality, and evolving encounters of the 21st century have an undeviating impact on the forthcoming progress of higher education. (Manzoor, 1999).

The drive for higher education is not merely to spread knowledge in numerous branches of information; it has more profound meaning and purposes. The tenacity may be multi objective and may be named as personal, communal, economical, and cultural (Moore & Farris, 1991). Education and mainly higher education cannot be separated from its environment and social situation. Religious, ethical, historical, and social ethos infuses through the material of the educational scheme of a state (Best, 1994). Allen (1988) recorded “In the period of rapid global, political, and inexpensive changes, the academies in South Asia and emerging countries are

being altered. Public prospects about entree to higher education straight distress about the part that universities can show in novelty and economic growth” The requests of principles of marketplace economies to the academic systems of all states have shaped a new framework for higher education (Rao, 2003).

Countries like Pakistan despite the fact that are progressing with novel reforms and policies still don't focus and emphasize on human aspect of development and now in the process of higher education which means the university level of education develops the ability to promote the human skills and attitudes that help them to modify their attitude and lifestyle according to their social, economic and political demands. Since the advent of enlightenment, it has been assured education is the means to human capital formation; it's like therapy for the soul, the fundamentals of budding towards betterment and understanding, which is a prerequisite for sustaining the development of nations (Muhammad Faisal Farid, 2010).

This study survey considers the utilization of active research in advanced education. The survey, particularly, takes a gander at two ranges of advanced education action. The main concerns, scholarly showing rehearse and incorporates a discourse of research and teaching method practice, and staff improvement. The second considers understudy engagement. In both of these center elements of advanced education, activity looks into has ended up being a focal way to deal with the examination, reflection and change of practice. Each of these principal foci incorporates a discourse of the confinements of the writing. The audit outlines the degree and scope of employments to have profited from an activity, inquire about approach (Gibbs, 2016).

This study audit considers the utilization of active research in advanced education. The audit, particularly, takes a gander at the two zones of advanced education movement. The principal concerns, scholarly showing hone and incorporates an exchange of research and teaching method practice, and staff advancement. The second considers understudy engagement. In both of these center components of advanced education, activity examine has ended up being a focal way to deal with the examination, reflection, and change of practice. Each of these primary foci incorporates a discourse of the impediments of the writing. The audit represents the degree and scope of employments to have profited from an activity, inquire about approach (Gibbs, 2016).

#### **2.2.4 Need for Higher Education in Pakistan**

Education is critical for Pakistani growth. In spite of the present accomplishments, the state still

has an amount of challenges to nurture their learning and teaching of its individuals. This is the method to meet its own communal and financial requests.

Tauqir, Hussain, & Azhar (2014) have presented a study of the International Bank for Reconstruction and Development (IBRD) (2000) which exposes the information has altered the world economy by substituting the physical investment with knowledge as the basis of wealth making. It further proclaims that the higher schooling is the chief source of knowledge formation and distribution. The part of higher schooling has never been as significant to the upcoming of the evolving world as it is currently. Higher education also aids in accelerating monetary growth, which will provide a better living condition, “development of progressive leaders, extension of selections, enabling social flexibility and helping the aptitude to fulfill their probable and the capability to report local glitches with appropriate answer” (Task Force on Development of Higher Teaching in Pakistan, 2002).

Since advanced education is very vital for the movement of a state, therefore cooperative efforts are compulsory to nurture a favorable culture. A private-public area partnership, however, is vital in contributing in endorsing higher schooling in developing states (Khan, 2007). Higher schooling depends on exceptional management capabilities and entity’s creative labors and ingenuity. On the additional hand, education grows great leaders and improvers. Schooling gives the leader an idea, self-sufficiency, flexibility and advanced skills. These leaders can challenge all financial, social and radical scenarios. They can progress society well by firstly persuading the educators, administrators, and scholars, which as a result can progress better supremacy, flawless substructure and secured organizations. The role of advanced education in the expansion of individuals, establishments, societies and states is multidimensional such as social capital, wellbeing, nutrition and the expansion of establishments. Higher education is very vital for society’s existence, economic development, political consultancy and Amity (Hoosen et al., 2009). Humanity can only flourish if they make money and managerial struggle towards higher teaching. Higher schooling also helps in quickening economic rising, which will give a healthier existing standard, expansion of progressive leaders, the extension of choices, permitting social flexibility and helping the brilliant individuals to accomplish their probable and the capacity to discourse local glitches with an appropriate resolution.

The world is seeing the rise of an information-based economy where the part of learning is

perceived as a basic contribution to financial development and advancement. Advanced education to be sure is basic for getting information and joining the class of a learning based economy. Instruction as a rule and advanced education specifically is of extraordinary essentials for Pakistan to live as a cultivated society in the comity of countries. As the season of autonomy in 1947, Pakistan's populace was 32.5 million. By the year 2009-10, the populace was evaluated to have achieved 166.5 million. Along these lines, in around 63 years, or in two eras, Pakistan's populace has expanded by 134 million or has developed at a normal rate of 2.6 for each penny for every annum (Asif Bajwa, 2015).

The role of communal and private segments is very crucial to managing up with the mounting demand for higher education. Global capability cannot be developed without information. Wise results rest with the fact that the manager must have real-world and technical information of an arena he is in. This will provide a sort of pledge of intellectual decisions. On the other influence, education advances great leaders and campaigners. But at times education badly needs to change itself. Education gives forerunner a vision, self-sufficiency, flexibility and advanced skills. These front-runners can confront all financial, social and political situations. They can grow society healthier by firstly influencing the educators, administrators, and scholars, which as a consequence can develop better supremacy, flawless substructure and secured organizations. Just as any other communal science part, leadership pacts with human sets and entities. Leadership has an extended history of the peculiar theory of big guy theories about management. This is not sufficient as new ideas are totaling to the essence of management (Higgs, 2003).

### **2.2.5 Women Empowerment**

Today in Pakistan, female population accounts for about 65%. Despite this high population, the literacy rate is low in this region. The low female literacy percentage is one of the chief causes of females' low involvement in the political, financial and social actions. They are unable to achieve their rights and strive for available chances in the job fair. This condition has led to the social and financial dependence of females, which in turn guarantees male control in society (Sassen, 1998). In Pakistan, gender associations also affect the process of female empowerment. Globalization may additionally aggravate this state (Arizpe, 1997; Beneria, 2003).

Despite the negative impressions since Pakistan's freedom, various administrations have acknowledged the status of education or females and approved policies to make schooling and

education available to all. An All Pakistan Education Meeting was held in 1947, which rested a target of providing free and mandatory primary teaching within a decade. Currently, special seats and merits are allocated for women to make a special place for them in the world of knowledge. Recent statistics showed that progress rate of female students is rising substantially as compare to the male student population in universities (Syeda Wadiat, 2005).

As mentioned in official codes, formal education is catered as one of the best importance gears of human wealth. The Economics of Schooling and particularly the part of education in the growth and expansion became protuberant topics during the initial ages of the 1960s. T.W. Schultz, Gary Becker along with others applied the fresh human capital setting to education and other happenings that had till then been catered outside the normal format of economic study especially with the trend line of women. It is an accepted detail that worldwide primary education is very vital for a state's development and so is the secondary schooling for women, as it carves a foundation for higher education and vocational exercise. The study conducted by *Rummana Shah (2007) furnished results which showed* that an extra year of schooling upsurges a teacher's periodic revenue by 14.2 % (which is greater than the prior studies) the extra year of knowledge increases the salary by 7.4 % in office areas for women. All the constants are highly substantial. According to another revelation, it was revealed that with each degree of rising in the education flat there is a considerable increase in the monthly salaries. Thus, the Higher Education shows an important part in enhancing the wages of women teaching in public areas and educational institutes in Pakistan, besides character building (Rummana., 2007).

The study by Paraesh and Russel (2007) has outlined the discoveries of a 2005 doctoral review by Malik which investigated to what degree support of advanced education offers to strengthen to ladies in Pakistan. A review instrument was utilized to question female employees and female understudies from 10 state funded colleges in Pakistan; 1290 understudies and 290 employees reacted. Along these lines, semi- structured meetings were held with ten employees and ten understudies. Respondents highlighted financial freedom and an expanded remaining in the family and society as the principle advantages of advanced education support. A noteworthy finding is that cooperation in advanced education empowers ladies to effect on various biased practices all the while and along these line impact improve. The fundamental suggestion is that future instructional systems be produced with the point of further advancing sex balance in every aspect of training in Pakistan, yet especially with the point of expanding female understudies'

cooperation in advanced education (Paresh & Russel (2007).

In another report published by Samina in (2005) portrayed a major conclusion is that input in higher education allows women to influence on a quantity of discriminatory practices concurrently and thereby influence change for the betterment. The main endorsement is that forthcoming educational approaches be developed with the purpose of further endorsing gender equivalence in all zones of education in Pakistan, but mainly with the goal of aggregating female students' contribution in higher education (Samina, 2010).

### **2.2.6 Benefits of availing Higher Education**

A sequence of studies has engaged into account the wider impacts of Higher Education:

Oreopoulos and Petronijevic (2013) appraise the literature on the earnings to higher education to determine who aids from the academy. They settle that despite the great degree of heterogeneity through potential college scholars, the speculation appears to wage off for both the usual and marginal scholar. The writers also note that there are two significant non-pecuniary yields to higher schooling to consider: regulating for the family upbringing and income, college alumni are less likely to be separated and tend to relish better health upshots.

In a research by Schultz (2004) on the influence of education on salaries, the highest charges of return were in ancillary and tertiary teaching. For example, in Burkina Faso, the taxes of return for tertiary level teaching were 18% for menfolk 26% for females in 1998, on par with subordinate education, but meaningfully higher than the rates of return to main education.

A study in Taiwan presented that higher education played a sturdy role in the states and individual economic evolution (Lin, 2004). It was initiated that a 1 percent increase in higher teaching stock (as demarcated by those who had accomplished higher schooling, including junior school, college, campus, or graduate Institute) led to a 0.35 percent increase in industrial production, and that a 1 percent upsurge in the number of alumni from engineering or usual sciences led to a 0.15 percent rise in agricultural production. This work inspected the effects of attentiveness in different areas and concluded that education of the natural disciplines and engineering had the major effect on production.

In exploring South Asia's financial benefits, one training showed that nations that were stragglers and that focuses in first grades in science and engineering best rise their state's per



capita GDP (Matthews & Hu, 2007). The quarrel is that states that are far from the manufacture possibility border could advantage most by reproducing other successful study and development in the domain.

In an education of six developed states, De Meulemeester and Rochat (1995) presented that higher schooling had a strong fundamental impact on financial development in France, Japan, Sweden, and the United Kingdom, but not at all influence in Australia and Italy. The writers conclude that advanced education is essential for development but not adequate. “It is vital,” they claim, “that the commune, political, and financial structures and the scientific level of the humanity to which the instructive system fits are such that graduates can make use of their accrued knowledge.”

Bloom et al. (2006) presented that non-college alumnae in US states in which the part of college graduates is high receive significantly more than those in countries with few university graduates. Alike results are testified by Moretti (2004), who bargains that growth in the share of university graduates increases the earnings of both great school dropouts and great school alumni who have not left on to higher schooling. Tactlessly, we see no similar study investigating such spill-overs in emerging countries.

Vandenbussche et al. (2006) lately found that progress from tertiary schooling seems to be more significant for growth in frugality closer to the manufacture possibility front line; they also found that in republics with a total feature productivity (TFP) minor than 17 percent beneath that of the United States, the influence of higher schooling on evolution is negative, which is in dissimilarity to the thrust of this research.

In the study of Julia H. Gulliver (2015) Secondary school graduation is something most youngsters anticipate –because it's an achievement, as well as due to the flexibility it brings. No more school! No more 6 a.m. wake-up timer, no more lobby passes, no more homework. Indeed, entering the work will involve a calendar. However, it'll be unique about class – there's a paycheck included, and no classes to sit through.

## **2.3 Human development indicators**

Krishnakumar, J., & Sarti, E. (2014) presented one of the studies that sum up all the necessary indicators highlighted three basic parameters to evaluate the form of development. The aim of the project was to analyze the effect of globalization on chances for human growth. Three key scopes of human growth are considered in work - employment, schooling and well-being. The notion was to hold a multidimensional opinion of well-being along with the adoption of a broad description of globalization. The results furnished a mixed image regarding the total impact of globalization on the selected human expansion dimensions. Occupation seems to write from financial globalization whereas it could eventually profit from the extra types of globalization (social and radical). Overall, education seems to respond positively, particularly to social and political directness. Well-being and fitness were more likely to be undesirably obstructed by globalization. Scarce strong memos emerge from the study. First and leading, one cannot confirm that globalization is either 'constructive' or 'destructive' as the overall influence is not even across scopes. Administrations need to forestall a possible adverse consequence of occupation and put in place laws and reforms that will assist absorb the labor laid off as an outcome. As schooling seems to profit from directness, and since schooling influences occupation certainly, a government can improve well-being in both the extents (and possibly others) by capitalizing in the educational scheme.

### **2.3.1 Economic Growth /Income**

Hanushek, E. A. (2013) explained that part of improved education had been an essential portion of the growth strategies of most nations and international administrations, and the facts show significant developments in school achievement across the emerging world in recent times. The policy stress on the very fact that education has reflected the importance of research on the part of human wealth in growth and improvement.

O'Connor, A. (2013) stated that there is an amassed tendency for administrative policy to promote free enterprise for its seeming economic profit. Accordingly, administrations seek to engage entrepreneurship schooling as a means to kindle increased points of economic motion. However, the financial benefit of free enterprise education has verified as to be difficult in substantiating. It is apparent that the problem is partially due to the multi-definitional standpoints of entrepreneurship. What shoots from this is a deficiency of a theoretically rigorous conceptual

foundation that will support policy-makers and instructors to locate a suite within specific aims. This item sets out a disagreement, extending from financial theory, to offer a purpose for entrepreneurship schooling and offers a policy agenda supported by scrutiny of the government strategy context.

According to research (Benos, N., & Zotou, S., 2014), the literature which inspects the effect of schooling on economic development. Specifically, a meta-regression analysis upon applying to 57 studies with a total of 989 full estimates indicate that enrolling students in higher institutes constitutes to a better level of education and on cumulative factors of human growth. Once it was accounted for this, the candid growth outcome of schooling is not consistent across several studies but varies conferring to several issues. Specifically, it is accredited to differences in tutoring measurement and education characteristics, mainly prototypical specification along with the type of facts and figures used, and the value of research openings where studies are printed, e.g., academic bulletins vs. working credentials. This study upon replication on certain other countries yielded the same results, eventually proving that higher levels of education have elevated levels of economic boosts and vice versa.

Similarly, Cuaresma, J. C., Doppelhofer, G., & Feldkircher, M. (2014) proposed a study highlighting the basic and fundamental factors of economic progress in European countries. The paper used Bayesian ideal averaging (BMA) to analyze robust factors of economic development between the time frame of 1995 and 2005 in a fresh data set of 255 European sections. The findings did suggest that income junction between republics is dominated by the racing up to regions in novel member countries in Central and Eastern Europe, while convergence within states is driven by areas in old European Union affiliated states. Regions comprising of capital towns are growing quickly, chiefly in Central and Eastern European republics, as do areas with a large segment of workforces with a higher training and education institutes. The results are healthy and dominantly vigorous when permitting for spatial release among European areas. The analyses posted on this study indicated the clear and direct relationship of education with employment rates hence an overall boost in the economy.

### **2.3.2 Economic uplift & Pakistan**

Our country is currently facing growing levels of revenue and wealth disparity, which are subsidized to venerable racial and cultural gaps in education consequences and other zones

respectively. These large breaks, in amalgamation with the noteworthy demographic changes by now underway, are threatening the financial future of our republic. Thus, departing racial and cultural gaps is not the only way to gratify the potential of folks of color; it is also vital to the well-being of our country. This report regarding economic uplift enumerates the financial benefits of concluding one of the most injurious racial and cultural gaps: the instructive achievement opening that subsists between obscure and Hispanic offspring and local-born white broods. Gaps in academic accomplishment is a utility of a host of issues, such as revenue and wealth dissimilarity, access to child maintenance and preschool packages, nutrition, corporeal and emotional wellbeing, environmental influences, community and domestic structures, variances in the quality of training and school, and didactic attainment. This proposes there are an extensive range of community policies that could aid in narrowing educational accomplishment gaps; the report validates that there are massive payoffs to concluding the gaps through community policies. It also sketches effective community policy plans to achieve this aim, though their particulars are left to future exploration.

According to Khan and Mehmood (1997) the land created in the name of Islam, Pakistan since forever laced great emphasis on education. Despite the bright basis and origin, education has remained the forever the most retrospect and neglected aspect of the nation. Literacy levels are lowest, counting in especially the female literacy rates, which are recorded as one of the lowest worldwide. The general record of education seen in the state is still limited to B.A and M.A degree. The research culture or scientific prospect is still unexplored. Not only gaining knowledge rate also the quality of education is squat. The dedication level of students is not up to mark as they find no association between education and prime earning. On the whole, as compared to South Asia there has been an instant development and progress in the Eastern region. Despite the continues message delivered by the Quran and Quaid, our states administration still pays the least heed towards the resources disposed of for the sake of education. The conclusion drawn from the research focused especially on the need of the time and new milieu that education is the ultimate road to progress and a sole tool towards the disposal of technology and science competition throughout the globe. We live in the world of revolution, and the passage to that success is technical education that can assist Pakistan to stand in the line of developing nations (Hasan Khan & Naushin Mahmood., 1997).

Education is by and large recognized as the principle instrument for progressing money related

improvement. In Africa, where advancement is essential if the territory is to move out of dejection, the guideline is particularly basic. For many years, change workplaces have put tolerably more vital emphasis on basic and, all the more starting late, assistant preparing. Yet, they tend to disregard tertiary training as a way to enhance monetary development and moderate destitution. The Dakar summit on "Education for All" in 2000, for instance, pushed just for essential instruction as a driver of wider social welfare. It cleared out tertiary training out of sight. Some portion of the purpose behind the absence of consideration regarding advanced education inside improvement activities lies in the deficiency of experimental confirmation that it influences financial development and destitution diminishment (Tilak 2005).

If the United States were able to close the enlightening achievement openings between scholars and, the U.S. economy would be 5.8 out of a hundred—or nearly \$2.3 masses—larger by 2050. The aggregate upsurge in Gross Domestic Product (GDP) from 2014 to 2050 would increase quantity to a sum of \$20.4 trillion, or a usual of \$551 billion annually. Hence, even very great public savings that close accomplishment gaps would wage for themselves in the custom of economic development by 2050. The profits of closing instructive achievement gaps expanse to additionally more than just augmented GDP and tax returns. The present generation of offspring will be better off as they grow into adults because they will have a far bigger sum of salaries, huge material standards of living, and an improved & healthier quality of life, all hail to effective and awarded level of education that they have been granted with. A forthcoming age group of children will be far more probable to nurture in families that can proposal them the inspiring chances of a middle-class existence; they will then be less vulnerable to grow up in families besieged in poverty. Today adults, whether employed or in retirement, will profit from the point that higher-earning employees will be far better able to monetarily sustain communal retirement profit databases such as Medicaid, Medicare, and Social Security (Lynch & Oakford, 2014).

Advanced education has incredible significance in the improvement of a nation. In any case, shockingly, its significance is yet to be acknowledged in Pakistan. For over ten years, nations have been attempting to inspire their instructive standard by giving quality advanced education to their residents, yet there are numerous hindrances and obstacles that are rising. These difficulties (amount, value, quality, and so forth) are exceptionally regular in nature, yet require legitimate technique to address in the best way. The higher education commission has given monetary help to these projects of staff change which empower educators and help them to be

updated with the most recent improvement in their subject and direct research examines and also collaborate with specialists in their particular branch of knowledges and related field. These projects go to enhancing the expert capability of instructors with the goal that they can grant fantastic directions and contribute essentially to raising the standard of advanced education in creating nations (Quddus, 1990).

The international policy community's mentality toward higher education is starting to move. Lately, key associations, for example, the World Bank and real benefactor governments have started to value the significance of tertiary tutoring for financial advancement. Givers have come to acknowledge that in a multi-pronged advancement procedure, all levels of instruction are critical. Alongside UNESCO, the World Bank in 1998 gathered a Task Force on Higher Education and Society, which united specialists from 13 nations to investigate the eventual fate of tertiary instruction in creating nations. The Task Force report, *Higher Education in Developing Countries: Peril and Promise*, contended that advanced education is basic to creating nations on the off chance that they are to succeed in a world economy where learning has turned into a key zone of preferred standpoint. "The quality of knowledge generated within higher education institutions and its availability to the wider economy," the report stressed, "is becoming increasingly critical to national competitiveness."

In broad terms, the level of education is linked to higher singular earnings. In specific, studies within and crossways many nations have found that an extra year of schooling interprets into a coarsely 10 percent upsurge in individual annual salaries. Apart from this discrete benefit, there is additional evidence that extra years of education provide communal benefits in the custom of improved well-being, higher heights of civic contribution, lower crime charges, and—most prominently for this examination— greater economic development.

The key is to finance, and continually invest over and over, in the health, schooling, skills, and social comfort of our most valuable reserve—our people. Such funds will instantaneously reduce economic inequalities, strengthen rankings of opening, and generate the incomes we need for future reserves, creating a righteous cycle of wealth. Investments made now in the intellectual skills of our individuals will help create paths for continuous development and enhance upcoming wealth, comfort and happiness.

### 2.3.3 Life expectancy

Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., ... & Cutler, D. (2016) proposed a study indicating that the United States amid 2001 and 2014, higher revenue based upon successful employment with a solid backbone of higher studies was linked with greater endurance and alterations in life anticipation across profits groups augmented over time. Though the connotation between life expectation and education based income mottled substantially across different zones; changes in longevity across revenue groups reduced in some parts and excelled in others. The variances in life anticipation were associated with health conducts and local area physiognomies.

According to the research conducted by Khan (2014), it was furnished that there has been increasing literature on health attaining behaviors and health services provided in context to educational awareness. This paper typically focuses on developing nations. Especially in Pakistan. The broad literature views the situation in striving nations and relates the same parameters which are responsible maintaining healthy behavior towards oneself along with adequate utilization of health facilities. Several factors control plausible health attitudes of a person such as social, financial, ethical, fiscal and political. Above all, education plays a mandatory role in adapting to all these parameters wisely. Hence it was related that social avenues, norms and beliefs, gender equality, financial and political support, favorable environmental systems and degree of education received are all pillars of health care and support itself. Policy makers need to have a proper information and compulsory education to design a careful health care system. Additionally, all health care campaigns, awareness and promotional drives backed with adequate knowledge of health and its benefits are all gained over the course of proper education (Khan., 2014).

In the setting of still uncertain precise effects of educational differences in specific places, the research scrutinizes whether schooling significantly surges coping health and nurturing volume on particular climatic vagaries and whether it progresses the resilience of individuals to climate dangers in general. The hypothesis is that speculation in Universal chief and secondary schooling around the sphere is the most operative strategy for concocting to cope with the tranquil uncertain hazards associated with the future environment (Striessnig, E., Lutz, W., & Patt, A. (2013). It is only the beforehand provided awareness with the help of educational stand that its

intensity can be reduced. The empirical indication accessed for a cross-country period series of issues related to past natural tragedy mortalities since 1980 in 125 states confirms this superseding prominence of education in reducing influences. It was also furnished that present new forecasts of inhabitants by age, sex, and closure of educational achievement in 2050, thus enabling a suitable instrument for anticipating cultures' and humanities for future adaptive dimensions based on substitute education situations associated with diverse reforms. Life expectation and disability-free life expectancy were directly connected to the extent of education, but the instructive differences were much superior to the latter in all states. The alteration in the disability-free life expectancy between those with a chief or lower secondary schooling and those with a tertiary teaching was over ten ages for men in Lithuania and about seven years for men in Austria, Finland adds France to the bucket, as well as for ladies in Lithuania. The variance was minimum in Italy (4 and 2 ages among males and females, respectively). Exceedingly educated Europeans can assume to live lengthier and spend additional years in improved health than persons with lower education. The scope of the educational variance in disability-free lifespan expectancy diverges meaningfully between states (Adler, N., Pantell, M. S., O'Donovan., (2013). The smallest and major differences appear to be administered in Southern Europe counting Eastern and Northern Europe, correspondingly.

Everett, B. G., Rehkopf, D. H., & Rogers, R. G. (2013) in their work revealed that the degree of relationship in between the level of education attained and the mortality rate in highly developed states has been constructive. The trend line in the linkage had always been constructively linear, showing that elevated levels of education lead to fewer deaths per annum. Although the tests to strengthen the results of this relationship have less been practically demonstrated. This works picked up the statistics from U.S National Health Interview Survey-Linked to mortality. In the research, the symmetry of the education-mortality curve plotted after the figures retrieval was analyzed based on cohort and gender. Simultaneously conventional regression models depicted unnatural functional form for the linkage of education and mortality. Although the relationship developed did had some constructive assumptions, but it varied greatly based on the type of cohort, nature, populations and areas. Despite the link been several linear levels of elevation and gradient was observed in the magnitude of females and white cluster of individuals. Hence, from the study apart from the direct link, it can be depicted that health awareness when incorporated in educational standards, can assist in increasing overall life expectancies.



Wilkinson (1992) examined the cross-sectional association between income distribution and mortality. He also checked the interaction of income distribution and mortality with gross national product (GDP) per head. The basic purpose behind it to investigate the impact of the change in income distribution over the long period on mortality in the case of the developed countries. In his study, he had found that the gross national product (GDP) is an important determinant of the notational mortality rate in the case of the developed countries.

Rogers and Wofford (1989) had found that there are six main factors of life expectancy in case of the 95 developing countries. In their analysis, they investigated that urbanization, the population associated with the profession of agriculture, education rate, safe drinking water, average calories per person and the better health facilities played a significant role in the case of the life expectancy in the developing countries at world level.

Acemoglu and Johnson (2007) explore that there is a major improvement in basic health facilities from the 1940s. They estimated the effect of these improvements on the life expectancy and economic performance. In this study, they have found that predicted mortality has a significant influence on changes in life expectancy from the period of the 1940s and it is interesting to note that it has no effect before the 1940s. This study used predicted mortality as an investment and found that one percent rise in life expectancy results in an increase of 1.7 to 2 percent rise in the population. The prose and cone of this analysis are that life expectancy has not much larger impact on the total Gross Domestic Product. In other words, it is proved that there existed a positive association between life expectancy and the per capita income of the country.

Shaw et al., (2005) examined the factors of life expectancy for the period of 1960 to 1999 in the case of the OECD. They investigated that per capita use of some products has a positive association with the life expectancy, such as medicines, vegetables, fruits, and butter. On the other hand, the per capita of the consumption of any product like tobacco, drugs, and alcohol put a negative impact on life expectancy.

Hussain (2002) investigated the determinants of life expectancy in his study. For this purpose, he used cross-sectional data. This data is based on 91 developing nations of the world. The multiply ordinary least squares was implemented in this study in order to find out the determinants of the life expectancy. Moreover, the author used the variables of per capita GNP, fertility rate, per capita calorie intake and also literacy rate. This analysis checked the

relationship in linear and log linear model.

Marmot (2005) identified the social factor which is responsible for inequality in health. This study focused on those social determinants which are related to communicable and non-communicable disease alike. Starfield and Shi (2002) had founded that there is the highest level of life expectancy in Costa Rica. This high level of life expectancy can be comparable to developed countries. The reason behind this remarkable achievement is strong social and political infrastructure which promotes the primary health care program.

Ali and Khalil (2014) have explored the effect of different economic factors on life expectancy over the period of 1970 to 2012 in the case of Sultanate of Oman. The factors include in this study are the production of food, registration at the school, inflation, population growth, per capita income and emissions. The estimated results of this study reveal some factors have positive as well as a significant influence on life expectancy, such as the production of food, enrollment in school for Sultanate of Oman. On the other hand, some factors bring a negative consequences for the life expectancy for the Sultanate of Oman like inflation and per capita income. In the same way, the results showed growth of population has a negative and significant connection with life expectancy in that particular country. The emissions have a positive and insignificant association with life expectancy in the long run, but in case of the short-run emissions has a negative and significant association with the life expectancy. The findings suggested that government should take appropriate steps to check these socioeconomic factors which put negative impact on life expectancy.

#### **2.3.4 Employment**

A very interesting study (Riley & Gray, 2015) revealed a linear relationship between the rates of employment with the level of education. A group of students, who had been uneducated for at least the time that possibly would have been their former two ages of high school, responded to questions about their succeeding chase of higher education and jobs. Eighty-three percent of the children had departed on to some form of official higher education, and forty-four out of a hundred had either accomplished or were presently in a bachelor's degree program. In total, they testified little difficulty in enrolling themselves into colleges and campuses of their prime and adapting to the academic supplies there, regardless of not having the admissions authorizations. Those who had been uneducated during what would have been assumed their K-12 time were

more probable to go on to a bachelor's degree as compared to those who had some education or curriculum-based private schooling during that time. Concerning occupations, despite their early median age, most were profitably employed and monetarily autonomous. Most children opened up about their feeling stating that they are not being educated profited them for higher education and jobs by promoting their intellect of personal accountability, self-motivation, and wish to learn.

Jawad Khan (2011) proposed a conclusion via investigating the influence of government spending on education on the economic development of Pakistan for the dated range of 1980-2009 by expending co-integration and vector fault correction methods. The study also designates capital stock and labor strength participation in the financial growth of the state as few main variables that seem to influence the economic expansion of Pakistan alongside education in the long-run. The outcomes settle that education has a long track associated with economic growth. Improved standards of education advance the efficiency and output of labor potency and affect the financial development in the long -term. Conversely, in the short-term education do not have a slightest significant association with financial growth. This suggests, therefore, that "education excellence is essential to upsurge the economic development and human wealth abilities for the state, the government with capable management at the inferior level, should escalate the outlay on the education, region to promote exploration and development doings and improve the eminence of education in edict to improve the financial growth presentation (Khan., 2011).

*Employment may have a direct relation with education, but with certain factors, the return of best wages against best education is often not implied on male and females equally. Reason is the societal discrimination, i.e. gender discrimination.* A study backing this fact on educational, employment was conducted by *Aslam & Monazza (2007)* revealing that disparity in the labor market despite equal levels of higher education profits to male and female training is one possible clarification for the large gender disparity in education in Pakistan. It was empirically tested by approximating private revenues to education distinctly for male and female salary earners. The paper contributes to the previous findings by using a diversity of practices to steadily estimate economic earnings to the level of education. Earnings purpose estimates reveal an ample gender irregularity in economic profits to education, with revenues to women's education being considerably and statistically meaningfully greater than men's. However, a disintegration of the gender salary gap proposes that there is highly distinguished treatment by

managers and owners. Hence concluded that the whole labor marketplace returns are much greater for men, despite revenues to education being greater for women. This advocates that parents may have a shared motive in assigning more assets to boys than to girls within families (Aslam & Monazza., 2007).

In one of the studies proposed by Jhonson (1992), it was estimated that life expectancies for white men and white women by education, by family income, and by employment status. They found that Education and life expectancy show a significant relation, but this relation is not strong as the association between life expectancy and income or employment status.

## **2.4 THEORETICAL FRAMEWORK**

In this chapter, a theoretical and conceptual framework has been developed regarding the relationship between higher education and human development. The variables have been discussed in the context of empirical studies done earlier and their contribution in bringing forth the research questions of the current study. In this chapter, theory outlining the relationship between the importance of higher education and its impact on human development indicators like; economic growth, employment, and life expectancy; have also been discussed in detail.

### **2.4.1 Human Capital Theory (HCT)**

The Human capital theory has a considerable importance in the current flow of educational policies developed across the globe. HCT provides a framework for establishing a mechanism to govern education at the state level by promoting it as an investment for the future that has the quality to yield maximized returns, not only for individuals but also for the country as a whole, related to income, employment and economic prosperity or growth. This theory presents the factor of education as a building block of the knowledge-based economy to achieve growth and development. In the last two decades, the notion of “knowledge-based economy” has gained considerable importance as it can build a connection between education, skill development, training and economic prosperity. With the advent of the concept of globalization, the economic activity has shifted its major focus from physical labor to knowledge and intellect and thus making education the crucial part of the economy and development of the nation (Gillies, 2015).

Human Capital Theory has also been developed in the similar context that places education as a building block not only for the development of individuals personally and financially but also for

the economic prosperity in a broader sense. It can be stated in the light of the theory that better the educational achievement of individual, the better will be their income and the most prosperity for the economy. Another view that has been added to the HCT to cover its shortcomings is the broader concept of achieving the true goals of education, i.e. the personal development of human and not limiting it just to the economic growth, prosperity or financial gains. The modern theorists have included this concept in their studies (Gillies, 2011).

Human Capital Theory has two basic elements. The first element is related to the distribution of income or wages that can be directly connected to education. Most of the work done in the early days of the theory was based on the concept of how the earnings of an individual increase or decrease with their education, or how their employment depends on their level of education. Some of the studies in the USA compared the earnings of high school graduates to that of college graduates, an identifier that college graduates earn better than high school graduates. The theory presented the cost of education as an investment for future gains (Schultz, 1960).

The second element was developed at the later stage when theorists thought that education is not just for the economic gains, rather it helps in improving the quality of life as a whole and in the personal development of an individual. They introduced a qualitative concept to the financial gains framework. Education as well as skills training, have become a vital part of enhancing the capacity of the workforce. The modern theorists suggested that the reason behind the high earnings of college graduates was not just their level of education; rather, it's the intellect and quality that they put in their work brings them more financial gains and helps in their career and personal development (Gillies, 2015). Enhanced quality reaped broader benefits not just for the economy, but also for the society as a whole in the form of a well-educated, intellectual and trained workforce that can make viable choices to improve their life standards and to achieve economic growth on a larger scale (Becker, 1992).

Becker (1993) introduced a relationship mechanism in the Human capital theory where individuals make choices and decisions based on their social relationships and behaviors preferred over rational choices of economic growth. The concept of human capital evolved from knowledge and skill training to a wider array of attributes, core competencies, behaviors, attitudes, self-efficacy, honesty, trust, reliability and sense of responsibility of an individual to improve one's quality of life. Education remains to be the center of attention, but not just as an

economic booster but as a way for human development to build human capital and to achieve economic success in the long run (Becker 2002).

Human Capital Theory is very much vital in explaining the relationship between higher education and human development index measured in terms of economic growth, employment, and life expectancy. All the three factors are interrelated because economic growth will ultimately increase employment and improved quality of life will improve the life expectancy.

## **2.4.2 Hypothesis Development**

### **Higher Education and Economic Growth**

Education has a significant role in the development and prosperity of a country's economy. According to a study carried out by Schultz (2009), an increase in the level of education and training of the workforce results in creating more opportunities for increasing production capacity, increased employment rate and sustainable economic growth. An Increase in the production capacity results in more jobs for the skilled labor and thus decreases unemployment in the country. This improved economic growth and increase in skilled and educated labor decrease poverty levels and helps in improving the quality and standards of life for the nation as a whole (Nowak & Dahal, 2016). The human capital developed after gaining higher education, training and skill development is very much beneficial not only for the individuals but also for the society and the nation as a whole. Education not only results in financial gains but also helps in improving health conditions, decreasing the rate of crimes and in building a better living environment, thus contributing to the economic growth and the development of a nation in the long run (Hawkes & Ugur, 2012).

Another study conducted by Afzal *et al.* (2012), examined the relationship between education and economic growth revealed that investment in education is a multi-dimensional mechanism that ultimately results in developing the nations. Education helps in increasing the productive capacity which brings the poverty to lower levels, and this increased productivity helps in the economic growth (Kim & Terada-Hagiwara, 2010).

Well-educated and trained labor force helps in the easy adoption of modern technologies and equipment to evolve the production process according to changing global trends and in coping with the lack of human and physical capital (Adawo, 2011).

Adiqa (2011) conducted a study which showed that increasing the literacy rate results in expanding the career opportunities and helps in flourishing the economy of a country. The study also emphasized that together with quantity of education the quality of education imparted should also be taken into account to create a well-trained workforce and to improve the governance, maintenance, and working of the institutions of the society as a whole (HDR, 2001). A study conducted in the context of Pakistan analyzed the relationship between human capital and economic growth and found that with a one percent increase in the trained human capital almost 40 percent increase in GDP can be achieved (Abbas & Peck, 2008).

### **Higher Education and Life Expectancy**

As already discussed above that investment in education gives way to a multi-dimensional mechanism, it not only boosts economic growth, but also plays its part in improving the quality of life and health standards thus increasing the life expectancy of individuals. Human capital with better health will have more opportunities to develop their skills and contribute to the economic growth as they will perform better and productivity will be high (Todaro & Smith, 2009). According to a study conducted by Shkolnikov *et al.* (2006), it was found that the life expectancy of the population with higher education levels was better than those with less education.

Life expectancy means the number of years a person is expected to live based on the statistical average. The rate of life expectancy has been increasing worldwide as compared to two decades ago. The death rates from infectious diseases have fallen due to the provision of better health facilities. Life expectancy is an important subject because it is considered as an indicator to measure the social and economic development of the country (Bilas, 2014).

Most of the literature studies on mortality inequalities describe socioeconomic inequalities as a major cause. Some studies discussed that people with higher education levels enjoy better health and quality of life as compared to people who are less educated (Mackenbach *et al.*, 2003; Kohler *et al.*, 2008). The relationship between income inequality, levels of education and mortality have been analyzed and a significant effect of education founded on the relationship between income inequality and mortality rate (Muller, 2002; Huisman *et al.*, 2005). Most of the industrialized countries experience high literacy rates and their expectancy levels also improved (Valkonen, 2001).

Improving the standards of education and providing people with the opportunities to improve their education and skills may result in increased income, lowering of stress, safe working environment, building strong social relationships and enhancing personal capacity, etc. (Mirowsky & Ross, 2003). The studies done by Ricci and Zachariadis (2006) also approved that there exists a positive relationship between high levels of education and increase in life expectancy in a country. On the other-hand, lack of education may result in increased use of alcohol and increased depression (Feinstein *et al.*, 2006; Svenson & Peercy, 2016).

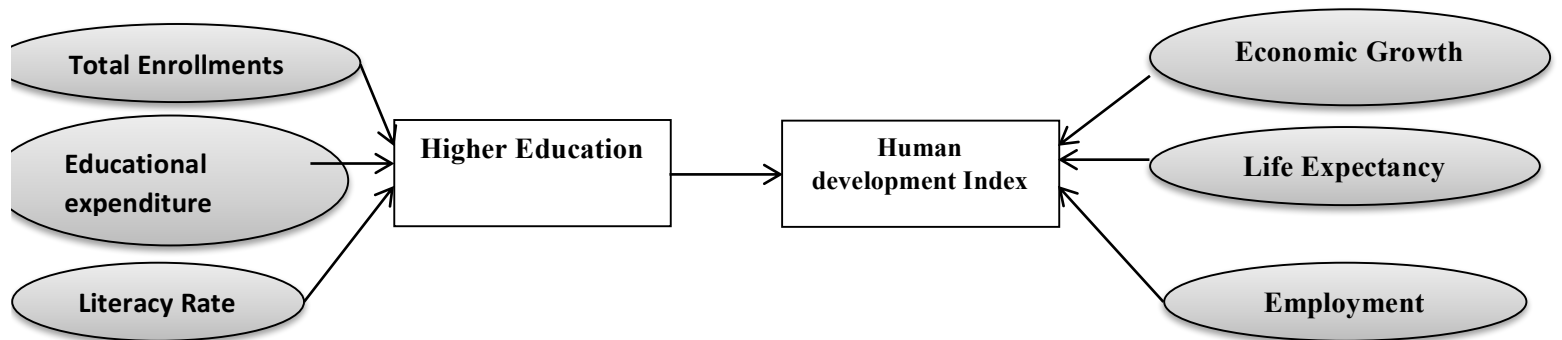
### **Higher Education and Employment**

It is a widely known fact from the literature studies that at the level of higher education is achieved, unemployment decreases (OECD, 2000). According to the literature, the unemployment rate increases gradually with less emphasis on gaining higher education (Valletta & Hodges, 2005). Education helps in developing the skills of a person and bringing quality to their capabilities, making them valuable assets for their organization. The overall efficiency of the production process enhances due to the continuous mobility of educated workers, and their capacity to generate opportunities decreases their chances of unemployment (Brunello *et al.*, 2009). Another study conducted in Netherland showed that employees who are uneducated are at a higher risk of remaining unemployed as compared to those who are educated (Wolbers, 2000).

Higher education plays a vital role in developing the human capital by making them fully aware of the changing market dynamics. Moreover, with the development of the concept of globalized economy self-employment has also increased with the increase in the intellect of the workforce (Gillies, 2015).

According to the study conducted by McMahon (1998), the relationship between health, happiness, and wealth is almost non-significant. It was quite different from previous studies, and it was found that there is no significant relationship existed between higher education levels and high wages.





**Figure 1: Framework for research Study**

### 2.4.3 Research Hypothesis

- There exists a direct relationship between higher education and economic growth.
- There exists a direct relationship between higher education and life expectancy.
- There exists a direct relationship between higher education and employment.
- There exists a difference in mean values of relationship between higher education and human development index among males and females.
- There exists a direct relationship between economic growth and life expectancy.
- There exists a direct relationship between economic growth and employment.
- There exists a direct relationship between life expectancy and employment.

## **CHAPTER # 3**

### **RESEARCH METHODOLOGY**

In this chapter, the overall research methodology of the study will be discussed in detail. It is very important to choose the right research approach and design according to the purpose of the study being carried out.

#### **3.1 Research Purpose**

The purpose of a research study has three categories; i.e. the exploratory study, the explanatory study and the descriptive study (Babbie, 1998).

##### **3.1.1 Descriptive Study**

The rationale for a descriptive research study is to provide the detailed information about the nature and characteristics of the research variable in a certain research environment. It makes sure that all the characteristics of the variable get discussed and reduces the chances of ambiguity. It uses up to date datasets, and no archival data is utilized. Descriptive research forms the basis of the framework for future research studies (Sekaran, 1992). It helps in building the demographic sketch of the research variable and the population under study.

##### **3.1.2 Explanatory Study**

The rationale for an explanatory research study is to test a pre-designed hypothetical framework in the context of giving literature but under different research settings. The purpose behind using different research setting is to validate the pre-existing theories and to endorse the framework (Sekaran, 2010). It helps in establishing a strong, viable theoretical base and tends to test the pre-established frameworks by bringing in some new research variables according to the changing research dynamics (Neuman, 2000).

##### **3.1.3 Exploratory Study**

The purpose of an exploratory study is to analyze basic facts and discover new research problems on which no theoretical basis is present. The information about the research setting, research population, and the newly founded research problem; all these form the basis to build a new conceptual framework. The flow of direct or indirect relationship between the variables depends very much on the nature and characteristics of the research problem and the variables

under study (Sekaran, 2010). No pre-designed theories or hypothesis is present in this case; the data is primary in nature mostly qualitative to get a detailed view of the problem and to fulfill the research purpose (Neuman, 2000).

The current research study is explanatory in nature as it tends to explain the causal relationship between higher education and its impact on human development index and its factors.

### **3.2 Research Approach**

The research approach is of two types, i.e. quantitative approach and qualitative approach. The choice of proper research approach mainly depends on the research purpose. The quantitative approach utilizes statistical data and methods to analyze the quantified variables. In this approach, various statistical techniques are used to test the hypothesis (Schofield & Anderson, 1984). On the other hand, in a qualitative research approach behavior and attitudes of research sample are measured and analyzed (Arksey & Knight, 1999). The qualitative approach allows the researchers to generalize the feelings, thoughts, and actions of the respondents by providing them with certain research settings (Iyavoo, 2005).

The purpose of this study is explanatory in nature, as discussed above. On the basis of this purpose, a quantitative approach has been utilized. Various features of a quantitative approach have been discussed here (Bryman, 2001, Sekaran, 2000): -

- The quantitative approach utilizes a deductive methodology to test the relationship between variables of the study and literature theories.
- The quantitative approach is more of a positivist method as it tends to combine the nature and characteristics of theoretical models.
- It helps in bringing forth the social phenomena in the form of objective nature of the variables of the research study.

Both of the qualitative and the quantitative approaches are very opposed to each other, but in a broader context they mix and complement each other (Veal, 1997).

### **3.3 Research Design**

A research design refers to the time frame of the data collected for the research being conducted. It has two dimensions; longitudinal and cross-sectional. Longitudinal studies have no certain time frame, as the research population needs to be examined after certain time intervals. While

cross-sectional studies have specified time frames (Saunders, Lewis & Thornhill, 2012). The design of the current study is longitudinal in nature as archival data of almost 20 years have been utilized from the published reports of the Statistical Bureau of Pakistan and Higher Education Commission of Pakistan.

### **3.4 Data Type**

This is a longitudinal study that has utilized quantitative secondary data from official published reports of the Statistical Bureau of Pakistan and Higher Education of Pakistan. Primary data are usually referred as the data that is collected directly by the researcher; while secondary data is the kind of data that has not been collected by the researcher oneself rather by somebody else for some other purpose (Ghauri & Grønhaug, 2010). The various advantages and disadvantages of secondary data have been discussed below in detail (Development, 2017):

#### *Advantages of Secondary data*

- It is cost-effective as it saves time and money.
- It helps in specifying the goals of primary data, as after analyzing the deficiencies in secondary data it is easy for the researchers to list what extra information is needed to fulfill the research purpose.
- Secondary data helps in better understanding of the research problem.
- It helps the researcher to compare one's collected data with that of the secondary data to ensure its correctness.

#### *Disadvantages of Secondary Data*

- The differences in units of data to be collected or the information available is not similar to the one required.
- The class boundaries or time frame of the data collected may be different, which makes the data useless for the research purpose.
- Sometimes the data belong to unpublished sources; in this case its accuracy and reliability become questionable.
- Data may also become obsolete or out-dated if not used at the right time.

### 3.5 Data collection

To draw logical conclusions from the research study being carried out, the research purpose, approach and design should be closely followed to choose the right method for collecting the data. Various personal, social and methodological constraints occur in collecting the reliable and valid data to fulfill the purpose of the study. These constraints may include; privacy issues in accessing the data, time frame limitations, cost concerns and the feasibility of the methods used for collecting the data, etc.

The data related to the human development index and its factors like; life expectancy rate, economic growth rate and income per capita (regarded as employment rate) has been taken from the published annual reports and yearly census data available on the website of the Statistical Bureau of Pakistan. While the data on the higher education and its factors like; total enrollments, total pass outs and literacy rate have been collected from the published annual reports available on the websites of Higher Education Commission of Pakistan and the Ministry of Education in Pakistan. All of these websites provide official datasets endorsed by government agencies with open access for the general public and are comprehensive in nature with little or no chances of ambiguity. The datasets available on the website of the Statistical Bureau of Pakistan has been categorized on the provincial level and district level in Pakistan. Any data below this division is not available on the website. The datasets available on the website are not the latest ones, but still, they are reliable and fulfill the purpose of this study, i.e. to analyze the impact of higher education and to discuss the trends and patterns that have developed over time in this regard. The current has used the datasets from (1984-2014) for both factors of higher education and factors of human development index.

### 3.6 Definition of Variables

*Total Enrollments* refer to the total number of students within a certain education level in a certain time period usually a year.

*Total Pass outs* refer to the sum of the students completing a certain level of education in a certain time period usually a year.

*Literacy Rate* refers to the percentage of people who can read or write (UNHD, 2007).

*The Human Development Index (HDI)* refers to the metric developed by the UN to assess the

level of social as well as economic growth and development of various countries. It has four components, i.e. life expectancy, mean years of schooling, income per capita and expected years of schooling (Human Development Index - HDI, 2017)

*Life expectancy* refers to the number of years an infant is expected to live, calculated on the basis of current mortality rates with respect to age (UNHD, 2007).

*Employment/ Income per capita* refers to the amount of money earned by a single person within a designated area at a certain time.

### **3.7 Reliability and Validity**

The concepts of validity and reliability integrated into one another, and they together ensure the worthiness of a research study (Sarantakos, 1997). In order to establish the credibility and truthfulness of the research study carried out, in the mind of readers, validity and reliability should be ensured to make the readers' trust the outcomes of the study (Neuman, 2000). The current study used census data, i.e. secondary data for fulfilling the research purpose. The secondary data not only helps in saving time and cost but also help in ensuring the quality if reliable and published sources are used (Bryman & Bell, 2007). The secondary data from published sources, is usually expected to be of high quality as experienced personnel and established protocols are utilized by government and non-government organizations.

It is very important for the researcher to ensure the credibility of the research being carried out and to make its outcome worthwhile for future studies, so after choosing the right research approach and design, validity and reliability guidelines should be closely followed. In a research methodology, the validity of the data being used and the reliability of the sources from which the data are being taken is of extreme importance (Iyavoo, 2005). The secondary data or especially the census data is vast and complex nature; it becomes very difficult for the researcher to manage and analyze such vast data, so care should be taken (Cooper & Schindler, 2008).

### **3.8 Ethical Consideration**

The data are of a secondary nature; so ethical responsibility has doubled in this case. The data has been collected from published resources of Higher Education Commission and Statistical Bureau of Pakistan. As the reports were available publicly so no permission was needed to be taken by the concerned authorities. The data have been taken with extreme care and

responsibility to avoid errors and to ensure the validity of the research being carried out.

### **3.9 Data Processing**

The time series data have been taken in this analysis covering the sample period from 1984 to 2014 that is thirty (30) years. The data are collected from the different sources such as different issues of Pakistan Economic Survey, various issues of Pakistan Statistical yearbooks and World Development Indicators (WDI).

## Chapter 4

### Statistical Analysis and Discussion

#### 4.1 Analysis

##### 4.1.1 Descriptive statistics

Descriptive statistics is a way to describe the nature of different variables which are used in the analysis. We can say that descriptive statistics are used to check how different variables behaved during different periods. Descriptive statistics just have the ability to describe the data.

**Table #1 Descriptive statistics**

	<b>LITRACY</b>	<b>LEMP</b>	<b>LE</b>	<b>GDP</b>	<b>ENR</b>	<b>EDU</b>
<b>Mean</b>	3.731017	1.629727	62.39450	7418.870	0.574832	15040.63
<b>Median</b>	3.761200	1.615950	62.52315	876.9511	0.387530	5821.000
<b>Maximum</b>	4.046554	1.718502	66.18337	37739.92	1.061040	64014.00
<b>Minimum</b>	3.332205	1.577492	58.30895	410.8303	0.268510	1013.000
<b>Std. Dev.</b>	0.250723	0.044248	2.337614	13840.38	0.273976	18149.94
<b>Skewness</b>	-0.215752	1.048277	-0.092860	1.562994	0.389196	1.509438
<b>Kurtosis</b>	1.594330	2.604934	1.877378	3.468700	1.353574	4.214965
<b>Jarque-Bera</b>	2.792715	5.879174	1.672414	12.90566	4.283957	13.67843
<b>Probability</b>	0.247497	0.052888	0.433351	0.001576	0.117422	0.001071
<b>Sum</b>	115.6615	50.52153	1934.229	229985.0	17.81980	466259.5
<b>Sum Sq.Dev.</b>	1.885862	0.058737	163.9332	5.75E+09	2.251891	9.8809
<b>Observations</b>	31	31	31	31	31	31

Descriptive statistical results of the table 1 show that there are 31 observations of each variable which is used in this study. The purpose of the technique of Descriptive analysis is to evaluate the nature and movement of different variables by using mean, median, skewness, kurtosis, minimum and maximum value. However, descriptive statistics do not say anything about the



relationship between the variables in question. To explore the relationship between variable, bivariate analysis is needed. For the purpose of analysis, we use correlation and regression analysis in this study.

#### 4.1.2 Correlation analysis

A numerical measure of the strength of the linear relationship between any two variables is called the coefficient of correlation. In other words, correlation analysis helps us in knowing the degree of relationship between two or more variables.

**Table #2 Correlation analysis**

	<b>GDP</b>	<b>LE</b>	<b>LEMP</b>	<b>LITRACY</b>	<b>ENR</b>	<b>EDU</b>
<b>GDP</b>	1.000000	-0.686197	-0.088873	-0.693742	-0.327495	-0.343650
<b>LE</b>	-0.686197	1.000000	0.684923	0.987396	0.850119	0.835113
<b>LEMP</b>	-0.088873	0.684923	1.000000	0.625117	0.772746	0.909801
<b>LITRACY</b>	0.693742	0.987396	0.625117	1.000000	0.855677	0.769652
<b>ENR</b>	-0.327495	0.850119	0.772746	0.855677	1.000000	0.825016
<b>EDU</b>	0.343650	0.835113	0.909801	0.769652	0.825016	1.000000

The value of correlation coefficient may be positive or negative, the sign depending on the sign of the term numerator of  $r$ , which measure sample co-variation of two variables. Correlation coefficient lies between the limits of -1 and +1 that is  $-1 \leq r \leq 1$  and if  $r$  is zero, then it means that there does not exist any association between variables. The correlation coefficient is symmetric in nature and it is a measure of linear connotation or linear dependence only, it has no meaning for describing the non-linear relationship. However, there is certain limitation associated with correlation analysis as Correlation does not explain the whole causal connection between the variables analyzed, but only that there is a relationship between the two. It analysis does not tell us whether the higher degree of correlation appears due to any believable reason or not. The

believable reason to have a relationship between the variable is called causation. The existence of causation always generates a correlation, but a high degree of correlation does not necessarily mean the existence of causation between the variables. The correlation studied between presumably unrelated variables is called spurious or nonsense correlation (Greene, 2003). For exploring the nature of the relationship between variables, we used regression line.

## 4.2 Results of Estimation

Different theories of the Human Capital this study, regression analysis is used total argue that there is the existence of a correlation between higher education and human development. In this regard, a question arises which type of mythology use to assess the connection between higher education and human development. The method of correlation has been applied in most of the theories related to higher education and other indicators. However, there is certain limitation associated with correlation method such as causation (Aziz et al. 2008). Regression analysis is used in this analysis to find the association between the variables. This study tests higher education (enrollments, educational expenditure, and literacy rate) as dependent variables and GDP, life expectancy and employment as independent variables.

$$HE_t = \beta_0 + \beta_1 GDP_t + \beta_2 LE_t + \beta_3 EM_t + \mu_t$$

Where “HE” represents higher education which includes literacy rate, higher education expenditure, and enrollment in higher education. Higher education depends on the human development index, which encompasses different factors, but, in this study, we include GDP, employment and life expectancy as indicators of human development index. In the above model, GDP is a gross domestic product as per capita income, LE represents life expectancy, EM shows employment rate and “ $\mu$ ” is an error term whereas “t” shows time. For getting in depth knowledge of the relationship between human development index and higher education, we use both variables as dependent as well as independent variables.

### 4.2.1 Model 1 (Impact of human development on literacy rate)

The regression line estimated in model 1 is as follows:

$$Lit_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 LE_{it} + \beta_3 EM_{it} + \mu_t$$

Where “Lit” is literacy rate, “GDP” is a gross domestic product as per capita income, LE represents life expectancy, “EM” shows employment rate and  $\mu$  is error term whereas t shows time.

### Results of Model 1

The results of estimated model 1 are reported in Table 2. However, the estimated regression line

$$\text{is as } Lit_{it} = 2.540 + 1.46GDP_{it} + 0.123LE_{it} - 0.87EM_{it} + \mu_t$$

**Table # 3 Results of Model 1**

<b>Name of variables</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>
<b>Constant</b>	2.540	-10.064	0.0000
<b>GDP</b>	1.46	1.554	0.1318
<b>Employment</b>	-0.87	-2.983	0.0060
<b>Life expectancy</b>	0.123	16.234	0.0000
<b>R-Squared</b>	0.98	<b>Adjusted R-Squared</b>	0.97
<b>F-statistic</b>	478.40	<b>p-value of F-statistic</b>	0.0000

The outcome of Table 3 shows that only one parameter is inversely related to higher education. One unit increases in gross domestic product per capita income will let to increase the literacy rate by 1.46 units. The P value of the gross domestic product per capita income is 0.1318 which showed that GDP is insignificant for literacy rate at 5 % of significance, but its p-value is near to significant at 10 %. The positive effects of gross domestic product of per capita income relate to the fact that higher GDP means prosperity and it also means that resources are utilized properly that leads to higher literacy rate in the country (Anand et al. 1993).

The literacy rate will decrease when people of the country pay more attention to getting a job instead of getting themselves educated. As the findings of Table 3 show that there will be 0.87 units decrease in literacy rate as a result of a one-unit increase in the level of employment. The p-value of the employment is 0.006 which is less than 1%, 5%, and 10%. So the employment variable is significant at 1, 5 and 10 percent. Unskilled and child labor increase the employment level, but it puts a negative impact on the overall literacy rate of the country (Becker et al. 1990).

It is well admitting the fact that life expectancy is putting a positive impact on the economy of the country. Higher life expectancy means people have good health which increases the productivity. Having good physical condition, people can perform well (Dowd et al., 2015) The results of Table 2 reveals that life expectancy is positively associated with the literacy rate. The one-unit increase in life expectancy will let to increase the literacy rate of 0.123 units. Moreover, life expectancy is significant variable as the p-value is 0.000 which is less than 5 percent.

The findings of Table 3 show that estimated regression line fits the data quite well. The value of  $R^2$  is very high as it is 0.98; this high value of R-squared is due to the data of time series. The value of the adjusted R-squared is 0.97. The values of R-squared shows that 98 percent variation in higher education (literacy rate) is explained by the human development indicator which includes the variables of the employment rate, Life expectancy and gross domestic product per capita income., whereas the remaining variations of higher education are due to some other factors. The value of F-statistics is 478.40 and the p-value of the F-statistic is 0.00000 which demonstrates that the overall model is a good fit.

#### **4.2.2 Model 2 (Government Higher Educational Expenditure Vs Human Development)**

The regression line estimated in model 2 is as follows:

$$EDU_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 LE_{it} + \beta_3 EM_{it} + \mu_t$$

Where “Lit” is literacy rate, “GDP” is a gross domestic product as per capita income, “LE” represents life expectancy, EM shows employment rate and  $\mu$  is an error term whereas t shows time.

#### **Results of Model 2**

The results of estimated model 2 are reported in Table 4. However, the estimated regression line

$$\text{is as } EDU_{it} = 5986 - 0.067GDP_{it} + 26.23LE_{it} + 27.7EM_{it} + \mu_t$$

**Table # 4 Results of Model 2**

<b>Name of variables</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>
<b>Constant</b>	5986	-15.09	0.0000
<b>GDP</b>	-0.067	-0.457	0.6513
<b>Employment</b>	27.7	6.006	0.0000
<b>Life expectancy</b>	26.23	2.20	0.0359
<b>R-Squared</b>	0.91	<b>Adjusted R-Squared</b>	0.90
<b>F-statistic</b>	94.50	<b>p-value of F-statistic</b>	0.0000

The outcome of the table 4 shows that one parameter is inversely related to higher education. One unit increases in gross domestic product per capita income will let to decrease the expenditure on higher education by 0.067 units. The P value of the gross domestic product per capita income is 0.6513 which showed that GDP is insignificant for the educational expenditure of higher education at 5 % of significance and as well as at 10 %. The negative impact of gross domestic product of per capita income is associated with the fact that higher GDP means the government has a spare amount which government mostly like to spend on development projects. In this regard, the educational sector neglected to put a negative impact on the economy. It is the objective of the government to improve the education system of the country, but, in some case, government objective alters the policy regarding human development. (Jung et al., 2003).

Government spending on social and community services like government spending on education will have the effect of removing so many social and economic backwardness of the country. Public spending on education will have the effect of increasing the employment level of the country. As the table 4 demonstrate that increase in educational expenditure has a positive effect on employment. The variable of employment is also significant at 5 percent as the p-value is 0.000 which is less than 5 %. Educational expenditure will upsurge literacy rate, which can helpful in improving the skill of manpower. In other words, an increase in educational expenditure will rise in the employment level (Schultz, 1988).

There exists a positive connection between life expectancy and education. The peoples are active representatives of the county and they can accumulate capital; build social, economic and political organization. The p-value of life expectancy is 0.0359 which means it is significant at the 5 percent level of significance.

The findings of Table 4 show that estimated regression line fits the data quite well. The value of  $R^2$  is very high as it is 0.91; this high value of R-squared is due to the data of time series. The value of the adjusted R-squared is 0.90. The values of R-squared shows that 91 percent variation in higher education (higher educational expenditure) is explained by the human development indicator which include the variables of the employment rate, Life expectancy and gross domestic product per capita income., whereas the remaining variations of higher education are due to some other factors. The value of F-statistics is 94.50 and the p-value of the F-statistic is 0.00000 which demonstrates that the overall model is a good fit.

#### **4.2.3 Model 3 (Enrollment in Higher Education and Human Development)**

The regression line estimated in model 3 is as follows:

$$ENR_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 LE_{it} + \beta_3 EM_{it} + \mu_t$$

Where “ENR” is higher educational enrollment rate, “GDP” is a gross domestic product as per capita income, “LE” represents life expectancy, “EM” shows employment rate and  $\mu$  is an error term whereas t shows time.

#### **Results of Model 3**

The results of estimated model 3 are reported in Table 5. However, the estimated regression line

$$\text{is as } ENR_{it} = 8.172 + 9.23GDP_{it} + 0.135LE_{it} + 0.1496EM_{it} + \mu_t$$

**Table # 5 Results of Model 3**

<b>Name of variables</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>
<b>Constant</b>	8.172	-10.28	0.0000
<b>GDP</b>	9.23	3.125	0.042
<b>Employment</b>	0.1496	0.1623	0.8723
<b>Life expectancy</b>	0.135	5.65	0.0000
<b>R-Squared</b>	0.84	<b>Adjusted R-Squared</b>	0.82
<b>F-statistic</b>	49.40	<b>p-value of F-statistic</b>	0.0000

The outcome of Table 5 shows that no parameter is inversely related to higher education. One unit increases in gross domestic product per capita income will let to increase the enrollment in higher education by 9.23 units. The P value of the gross domestic product per capita income is 0.042 which showed that GDP is significant for enrollment in the higher education at 10 % of significance and its p-value is also significant at 5 %. The positive influence of gross domestic product of per capita income narrates to the fact that higher GDP means higher purchasing power of the people. In other words, people can easily afford the expenses of higher education. It will increase the rate of enrollment in higher studies (Gemmell, 1996).

The coefficient results of Table 5 conclude that enrollment in higher education expenditure can play a significant role in the economic expansion of the country. The results show that one-unit in employment will increase the enrollment in higher education by 0.1496 units. However, employment is insignificant variable as the p-value is far more than 5 and 10 percent level of significance. When the employment increase the purchasing power of the people will increase. People will try to get educated themselves to get better opportunities in the future, Therefore the rate of enrollment in higher education will also stimulate (Neumark et al., 1995)

The coefficient in the results of Table 5 shows that the life expectancy appears to be positively related to the enrollment in higher education. The one-unit increase in life expectancy will let to increase the level of enrollment in higher education by 0.135 units holding other constant. The results of estimation, represent that life expectancy is significant variation as the p-value is 0.0000. It means that life expectancy is significant at 1 percent, 5 percent, and 10 percent. For the

sake of development and progress of the country; literacy, skill, training, research and health condition of the people play a significant role. This whole this means that education and better health facilities to increase life expectancy which provides a ladder to uplift the skills of the people of the country. All these measures in turn become helpful to attain the objective of higher enrollment in higher education (Asghar et al., 2011).

The findings of Table 5 show that estimated regression line fits the data quite well. The value of  $R^2$  is very high as it is 0.84; this high value of R-squared is due to the data of time series. The value of the adjusted R-squared is 0.97. The values of R-squared shows that 82 percent variation in higher education (higher education enrollment) is explained by the human development indicator which include the variables of the employment rate, Life expectancy and gross domestic product per capita income., whereas the remaining variations of higher education are due to some other factors. The value of F-statistics is 49.40 and the p-value of the F-statistic is 0.00000 which demonstrates that the overall model is a good fit.

#### **4.2.4 Model 4 (Economic Growth and Higher Education)**

The regression line estimated in model 4 is as follows:

$$GDP_{it} = \beta_0 + \beta_1 ENR_{it} + \beta_2 EDU_{it} + \beta_3 LIT_{it} + \mu_t$$

Where “ENR” is higher educational enrollment rate, “GDP” is a gross domestic product as per capita income, “LIT” represents literacy rate, “EDU” shows expenditure on higher education and  $\mu$  is error term whereas t shows time.

#### **Results of Model 4**

The results of estimated model 4 are reported in Table 6. However, the estimated regression line

is as  $GDP_{it} = 30.8 + 47.9ENR_{it} + 0.0624EDU_{it} + 8.624LIT_{it} + \mu_t$



**Table # 6 Results of Model 4**

<b>Name of variables</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>
<b>ENR</b>	47.9	4.36	0.0002
<b>LITRACY_RATE</b>	8.624	-8.17	0.000
<b>EDU</b>	0.0624	0.46	0.06442
<b>C</b>	30.8	8.52	0.0000
<b>R-Squared</b>	0.74	<b>Adjusted R-Squared</b>	0.71
<b>F-statistic</b>	26.80	<b>p-value of F-statistic</b>	0.0000

The outcome of Table 6 shows that no parameter is inversely related to a gross domestic product. One unit increases in literacy rate will let to increase the gross domestic product by 8.64 units. The P value of the literacy rate is 0.000 which showed that the literacy rate is significant for Gross domestic product per capita income at 10 % of significance and its p-value is also significant at 5 % and one percent. The positive influence of the literacy rate of gross domestic product of per capita income narrates to the fact that higher literacy rate means higher skill and productivity of the people. In other words, higher literacy rate plays a vital role in building human capabilities which stimulate the economic growth of the country. With the help of accurate knowledge, creative strength and skill the productivity of the citizen increase on a high rate which will put a positive impact on the gross domestic product of the country (Sachs et al., 1997).

The coefficient results of Table 6 explore that enrollment in higher education expenditure can play a significant role in the economic expansion of the country. The results show that a one-unit in enrollment in higher education will increase the Gross domestic product by 47.9 units. Moreover, enrollment in higher education is significant variable as the p-value is far less than 5 and 10 percent level of significance. When the enrollment in higher education increase the skill and technique power of the people will increase. People will try to get educated themselves to get better opportunities in the future, Therefore the productivity of the people will increase, which stimulate the growth of the economy (Chen et al., 2000).

The coefficient in the results of table 6 indicates that the government expenditure in higher education appears to be positively related to the gross domestic product of the country. The one-unit increase in government expenditure in higher education will let to increase the gross domestic product per capita income by 0.0624 units holding other constant. The results of estimation, represent that public spending on higher education is significant variable as the p-value is 0.06442. It means that public expenses in higher education is insignificant at 1 percent, 5 percent, but it is significant at 10 percent. For the sake of development and progress of the country; literacy, skill, training, research and health condition of the people play a significant role. This whole this means that education and better health facilities to increase life expectancy which provide a ladder to uplift the skills of the people of the country.

The interest of the people in getting the higher education will increase when they find that the government increase their expenditure in the educational sector. People realize that now they will able to get the higher education with less personal expenditure. It means that not only government expenditure increase, but also the enrollment in higher education also stimulate. Higher education means more skilled and trained labor force which is essential for the progress of the country. in other words, expenditure in higher education is the investment of government in the human development sector. It is renown fact that when people getting higher education the skill and their vision for future job improve. The entire these factors are putting a positive impact on the economy of the country. The skilled and trained, educated people are responsible for increasing the GDP of the country (Aziz et al., 2008).

The findings of Table 6 show that estimated regression line fits the data quite well. The value of  $R^2$  is very high as it is 0.74; this high value of R-squared is due to the data of time series. The value of the adjusted R-squared is 0.71. The values of R-squared shows that 74 percent variation in Gross domestic product (GDP) is explained by the higher education indicator which include the variables of higher education enrollment, higher education expenditure and a literacy rate of Pakistan from 1984 to 2014, whereas the remaining variations of higher education are due to some other factors. The value of F-statistics is 26.80 and the p-value of the F-statistic is 0.00000 which demonstrates that the overall model is a good fit. The value of Durbin-Watson stat is 1.9 which means that the Value of DW is 2.

#### 4.2.5 Model 5 (Economic Growth relationship with Life expectancy and Employment)

The regression line estimated in model 5 is as follows:

$$GDP_{it} = \beta_0 + \beta_1 LE_{it} + \beta_2 EM_{it} + \mu_t$$

Where “GDP” is a gross domestic product as per capita income, “LE” represents life expectancy, “EM” shows employment rate and “ $\mu$ ” is an error term whereas “t” shows time.

#### Results of Model 5

The results of estimated model 5 are reported in Table 7. However, the estimated regression line is as  $GDP_{it} = 76.59 + 6.48LE_{it} + 22.7EM_{it} + \mu_t$

**Table # 7 Results of Model 5**

Name of variables	Coefficient	t-statistic	p-value
<b>Constant</b>	76.59	1.57	0.123
<b>Employment</b>	22.7	5.47	0.0000
<b>Life expectancy</b>	6.48	8.98	0.0000
<b>R-Squared</b>	0.74	<b>Adjusted R-Squared</b>	0.72
<b>F-statistic</b>	40.40	<b>p-value of F-statistic</b>	0.0000

The outcome of Table 7 shows that no parameter is inversely related to the gross domestic product. One unit increases in employment will let to increase the gross domestic product per capita income by 22.7 units. The P value of the employment is 0.0000 which showed that employment is significant for gross domestic product per capita income at 10 % of significance and its p-value is also significant at 5 % and one percent. The positive influence of employment of gross domestic product of per capita income relates to the fact that higher employment means people have enough money to spend. When the spending of the people increases the demand for a product increase, which in turn will accelerate the investment. Higher investment means prosperity which increases GDP per capita income of the people of the country (Torrini, 2005).

The coefficient in the results of Table 7 indicates that the life expectancy appears to be positively related to the gross domestic product of the per capita income. The one-unit increase in life

expectancy will let to increase the gross domestic product by 6.48 units holding other constant. The results of estimation, represent that life expectancy is significant variable as the p-value is 0.0000. It means that life expectancy is significant at 1 percent, 5 percent, and 10 percent. For the sake of development and progress of the country; literacy, skill, training, research and health condition of the people play a significant role. This whole this means that education and better health facilities to increase life expectancy which provides a ladder to uplift the skills of the people of the country. All these measures in turn become helpful to attain the objective of higher enrollment in higher education and as well as it puts a positive impact on the GDP of the country (Asghar et al., 2011).

The findings of Table 7 show that estimated regression line fits the data quite well. The value of  $R^2$  is very high as it is 0.74; this high value of R-squared is due to the data of time series. The value of the adjusted R-squared is 0.72. The values of R-squared shows that 74 percent variation in gross domestic product per capita income is explained by the human development indicator which include the variables of employment rate and Life expectancy. Whereas, the remaining variations of gross domestic product of per capita income (GDP) are due to some other factors. The value of F-statistics is 40.40 and the p-value of the F-statistic is 0.00000 which demonstrates that the overall model is a good fit.

#### **4.2.5 Model 6 (Enrollment of male and female depend on educational expenditure, GDP and literacy rate)**

The regression line estimated in model 6 is as follows:

$$ENR_{it} = \beta_0 + \beta_1 LIT_{it} + \beta_2 EDU_{it} + \beta_3 GDP + \mu_t$$

Where “ENR” is a higher educational enrollment rate of both male and female, “LIT” represents literacy rate, “EDU” shows expenditure on higher education, “GDP” is gross domestic product per capita income and “ $\mu$ ” is error term whereas “t” shows time.

#### **Results of Model 6**

The results of estimated model 6 are reported in table 8. However, the estimated regression line is as  $ENR_{it} = 3.62 + 1.09LIT_{it} + 3.07EDU_{it} + 8.68GDP + \mu_t$

**Table # 8 Results of Model 6**

<b>Name of variables</b>	<b>Coefficient</b>	<b>t-statistic</b>	<b>p-value</b>
<b>Constant</b>	3.62	6.10	0.000
<b>Education</b>	3.07	1.79	0.0836
<b>GDP</b>	8.68	4.36	0.0002
<b>Literacy rate</b>	1.09	6.78	0.0000
<b>R-Squared</b>	0.88	<b>Adjusted R-Squared</b>	0.86
<b>F-statistic</b>	67.40	<b>p-value of F-statistic</b>	0.0000

The outcome of the table 8 shows that no parameter is inversely related to enrollment of male and female in higher education. One unit increases in educational expenditure will let to increase the enrollment of male and female in higher education by 3.07 units. The P value of the educational expenditure is 0.086 which clearly showed that educational expenses is insignificant for enrollment at 5 % and one percent level of significance but its p-value is significant at 10 %. The positive influence of educational expenditure to enrollment of male and female in higher education relate to the fact that higher government expenditure on higher studies means people have more and better opportunity to get educated themselves. When the spending of the government on human development, especially on education increases the demand for getting admission in higher studies increase by both male and female, which in turn will accelerate the skill of the people. Higher spending on education means higher enrollment and higher enrollment means increased productivity, which in turn is responsible for prosperity people of the country (Castro-Leal et al., 2005).

The coefficient in the results of table 8 indicates that the GDP appears to be positively related to the enrollment of male and female in higher education. One-unit increase in GDP will let to increase the enrollment of male and female in higher education by 8.68 units holding other constant. The results of estimation, represent that gross domestic product is a significant variable as the p-value is 0.0002. It means that gross domestic product is significant at 1 percent, 5 percent and 10 percent. For the sake of development and progress of the country; literacy, skill, training, research and health condition of the people play a significant role. This whole this means that education and better health facilities to increase economic growth, which provide a

ladder to uplift the skills of the people of the country. All these measures in a turn become helpful to attain the objective of higher enrollment in higher education and as well as it puts a positive impact on the GDP of the country (Asghar et al., 2011).

The estimation results of table 7 explore that enrollment in higher education expenditure can play a significant role in the economic expansion of the country. Higher literacy rate is essential for sustainable development of the country. The results show that one-unit increase in literacy rate will let to increase the level of enrollment of male and female in higher education by 1.09 units. Moreover, the literacy rate is significant variable as the p-value is far less than 5 and 10 percent level of significance. When the literacy rate increases the skill and technique power of the people will increase. People will try to get educated themselves to get better opportunities in the future, therefore the productivity of the people will increase which stimulate the growth of the economy. Higher literacy rate boosts the confidence of the people and in future they will try to get higher education which will increase the enrollment of both male and female in higher education (Levine & Renelt, 1992).

The findings of the table 8 show that estimated regression line fits the data quite well. The value of  $R^2$  is very high as it is 0.88; this high value of R-squared is due to the data of time series. The value of the adjusted R-squared is 0.86. The values of R-squared shows that 88 percent variation in enrollment of male female in higher education is explained by the literacy rate, gross domestic product and public spending on higher education. Whereas, the remaining variables of enrollment of male female in higher education are due to some other factors. The value of F-statistics is 67.40 and the p-value of the F-statistic is 0.00000 which demonstrates that the overall model is a good fit.

### **4.3 Summary of objectives**

It is renowned fact that no one can deny the significance of higher education. This is the reason that the importance of higher education is increasing day by day all around the world especially for the last 40 years. Higher education is used as an instrument to get sustainable economic growth of the country. In this context, this study has significant importance.

The main objective of this study to find the relationship between higher education and human development index. For the sake of finding in depth knowledge, we use both variables as endogenous and exogenous variables. We have found that higher education is essential for

economic growth and development of the country. The gross domestic product is used as the proxy of economic growth in this study. We have found that GDP stimulate as a result of increase in the level of higher education. We can say that the output depends on educated and skilled labor force. On the other hand, human development index puts a positive impact on the higher education. This study also tested GDP as dependent variable and employment and life expectancy as independent variables. We have found that there exist a positive and significant relationship between output, life expectancy and employment. The finding of this study corroborate that the returns of higher education have a constructive influence on life expectancy of Pakistan. Moreover, higher employment rate is a key factor for the prosperity of the country. This study concluded that higher education increases the employment rate, which is also one of the objectives of this study to find the relationship between employment and higher education. Another objective of this study is to check the enrollment of male and female in higher studied depend on which factors. The analysis of this research finds that enrollment of male and female depend on gross domestic product of per capita income, literacy rate and as well as on government expenditure on education. The analysis of this study concluded that higher education is considered as a mean of producing highly educated and skilled leader in case of Pakistan, but, still improvement is needed in the sector of education for the sake of getting sustainable economic growth.

## Chapter 5

### Conclusion and policy recommendations

There was a time when people were illiterate, less literate, semi-skilled and less educated. But with the passage of time it was realized that for the sake of development literacy, education, skills, training and research play a significant role. This notion was, especially given importance by the poor countries when they observed remarkable progress attained by the developed countries by their skill and educational improvement. This is the reason that the investment made on education was given the name of investment. Accordingly, the developing countries like Pakistan are also emphasizing upon expending as well as enlightening their higher education standard so that higher education could play an important role in their economic advancement. But, it is also a reality that standard of higher education can be improved with the improving in the human development index. To see the association between human development and higher education, this study is analyzed.

In this final chapter, we briefly review the substantive findings of this latest research work and at that point consider a portion of the ramifications of the review for the future of national skill labor formation strategies in Pakistan. Moreover, the analysis of this study can also guide the policy makers of other developing nation. Because they have been facing same economic and social problems.

#### 5.1 Conclusion

This study investigates the returns of human development indicators in higher education in Pakistan and as well as examine the returns of higher education on economic growth and development of Pakistan. The sample period has been taken in this research cover the period from 1984 to 2014. For getting the prime objective of finding the link between higher education and human development, different estimation techniques have been used in this analysis. Descriptive analysis is used to evaluate the nature and movement of different variables. Correlation is applied to check the association of the variables and at the end regression analysis has been applied to examine the nature of the relationship between human development indicators and higher education. This study tests higher education (enrollments, educational expenditure, and literacy rate) as dependent variables and GDP, life expectancy and employment as independent variables. For getting in depth knowledge of the relationship between human



development index and higher education, this study used both variables as dependent as well as independent variables. This study corroborates the findings of the other theories that higher education is essential for economic growth and development of the country. Whereas, gross domestic product is used as the proxy of economic growth in this study.

The estimation results of this research have found that the returns of higher education have a positive influence on economic growth and development of Pakistan. Enrollment in higher education and higher education expenditure are essential for prosperity because both have a positive impact on gross domestic product of per capita income of Pakistan. On the other hand, an increase in gross domestic product per capita income has a positive impact on enrollment of both male and female in higher education. Also, the higher rate of government expenses on education expenditure has a positive influence on enrollment in higher education. This study fully supports this theory precisely to higher education is responsible for providing high skill and quality of the labor force. The higher education increases the productivity of the citizen. As a result, people can accurately perform, and their participation rate is found to be highly associated with higher education. In other words, the skilled labor force is highly associated with the high economic growth of the country. The analysis of this research finds that enrollment of male and female depending on the gross domestic product of per capita income, literacy rate and as well as on government expenditure on education. The employment rate has found to be greatly related to enrollment in higher education. Nevertheless, expenditure on higher education put a greater contributes to improvements in economic growth.

The empirical consequences demonstrate that there is a link between higher education and human development. The interdependence between human development (health, employment, and per capita income) and education is an important reason why both factors have so decisive impact on a country's development. Better health is likely to raise the return on investment in education because health is an important factor in school attendance and school performance. Life expectancy is directly affected by the amount of schooling and with family income. It is a renowned fact that higher education is the most effective tool to increase the human capabilities and productivity, which is helpful in achieving the desired outcomes of economic growth and development. In this way, higher education has always been considered an important factor for socioeconomic and development reasons of any nation because it has an ability to raise the quality of human life and capital. This basic aim of this analysis is to elaborate the importance of

higher education and its consequences on the society. In this regard, the educational sector should not be neglected because it is expected to put a positive impact on the economy. It is included in the objective of the government to improve the education system of the country, but, in some case, government objective alters the policy regarding human development

## **5.2 Policy Recommendations**

The present study is about returns of higher education on human development and as well as returns of human development in the higher education of Pakistan. In the light of findings from estimation, the present study has following suggestions for the policy makers such as:

### **5.2.1 Vocational training and education**

Higher education must provide the education related to and needed by the labor market. In this regard, technical and vocational education is the need of the present time. There is a general perception that educationalists and employers supposed that the government pays less attention to the sector of human development. According to them, the government should respond satisfactorily to the management of the human resources, especially the government should pay appropriate attention to the vocational training program because it will boost the growth of the economy. The suggestion is that the administration and its offices should be more proactive as opposed to receptive in reacting to human asset needs. This can be proficient by evoking contribution from business and industry and making important associations with the private part. With constrained monetary assets, government must distinguish other options to urge the private segment to put resources into overhauling professional instruction and preparing. This is just attainable if the private division is persuaded that there are shared advantages and positive returns.

### **5.2.2 Improve woman literacy rate**

It is obvious that heavy disparities exist in respect of male and female educational rate in case of Pakistan. Therefore, the need is enhancing educational opportunities for the woman because the rate of return on woman's education is higher than men's and improved child health and nutrition, and more educated mothers lead to the multiplier effect on the quality of national resources for many years to come. Therefore, better it will be to follow such a policy package

whereby resources be re-allocated in such a way that rural and urban educational opportunity could be created along with the provision of employment opportunity to the woman of Pakistan.

### **5.2.3 Outdated educational system**

The educational system of Pakistan is outdated and obsolete. It fails to meet the modern requirement regarding quality and material. The system of education is concerned with just getting good marks. Thus, because of this educational system, a vicious circle of educational backwardness remains an operative whose cause and effect both result in educational backwardness. To improve this situation, it is a suggestion for the policy makers to hire competent teachers and professors. In other words, must hire those teachers who have a good understanding of the material to teach. There should be universal curriculum which is created by the most talented expert of the educational system and classes need to include new modern technologies.

### **5.2.4 Educational expenditure**

It is obvious from our estimation results that high employment rate, the higher level of governmental education expenditure and enrollment in higher education contributes positively towards the gross domestic product per capita income of the country. As this study examine that there is a strong positive consequence of higher education on the economic development and growth of the country, so this sector must be promoted, and special attention must be given for the sake of rapid, sustainable and proper economic development of the country. For this reason, the share of the expenditures on higher education as a percentage of national income must be increased.

### **5.2.5 Scholarship schemes**

Special policies must be designed in order to increase the higher education enrollment rate for both male and female. To increase the said enrollment rate scholarship schemes must be instigated and soft loans through banking system, must be set in motion to full fill the financial needs of the students.

### **5.2.6 Investment in higher education**

There are so many economists in the world who have the consensus upon this fact that it is the human resource of a country which determines the character and pace of its social and economic

development, rather just natural and material resources. Therefore, investment in the higher education sector must be made while taking into account the current nature of the demand for labor so that the unnecessary wastage of the national resources may be stopped. When the government increases its investment in the higher educational sector the enrollment in higher education will increase it will also stimulate economic growth. Higher education means more skilled and trained labor force which is essential for the progress of the country. In other words, expenditure in higher education is the investment of government in the human development sector

### **5.2.7 Awareness programme**

To create the awareness among the masses, a massive campaign about the role of higher education in the overall economic development and progress of the country must be launched at local as well as at national level.

### **5.2.8 Life expectancy**

On the bases of empirical results and discussion, it has been observed that life expectancy can boost economic growth and it is also positively connected with higher education. Therefore, for increasing the life expectancy; following policy implications are suggested for the policy makers of Pakistan. For increasing life expectancy, economic development is necessary. Economic development is possible in the presence of higher GDP. In this regard, the government should try to boost economic development for improving life expectancy. The condition of the health care facilities is not up to the mark in case of Pakistan. The government should take appropriate step to improve this worst condition. In this way, Primary school enrollment has a dual effect on the life expectancy. Increase in literacy rate not only improve health condition but, the production of food also increases.

Various initiatives press the need to improve human wellbeing and entice human development. Short-term and unsuccessful attempts for development have enforced the emphasis on sustainability. If the government pays more attention to provide better health and education facilities to the people, then it will lead to increase the gross domestic product of per capita income of the country. Higher GDP means prosperity, and it also means that resources are utilized properly that leads to higher literacy rate in the country. Government spending on social and community services like government spending on education will have the effect of removing

so many social and economic backwardness of the country. Public spending on education will have the effect of increasing the employment level of the country. The government has to increase the educational expenditure to get better results. For the sake of economic development, government should provide a foreign scholarship to the competent students. When these students come back with higher education, they will perform actively and productively. They are active agents of the society and their higher knowledge accelerate the development of the country.

In a nutshell, keeping in mind the above-mentioned suggestions, we could be able, in a much better way, to enjoy the fruits of economic prosperity as a resultant of investment in the higher education sector of the country.

## References

- Abbasa, Q., & Foreman-Peck, J. (2007). Human capital and economic growth: Pakistan, 1960-2003 (No. E2007/22). Cardiff Economics Working Papers.
- Abbas, Q., & Peck, J. F. (2008). Human capital and economic growth: Pakistan, 1960–2003. *The Lahore Journal of Economics*, 13(1), 1–27.
- Acemoglu, D., & Johnson, S. (2007). Disease and development: the effect of life expectancy on economic growth. *Journal of political Economy*, 115(6), 925-985.
- Adawo, M. A. (2011). Has education (human capital) contributed to the economic growth of Nigeria? *Journal of Economics and International Finance*, 1(3), 46-58.
- Adiqa, K. (2011). Role of University Education in Poverty Alleviation in Pakistan. *Interdisciplinary Journal of Research in Business*, 1 (7), 30-38.
- Adler, N., Pantell, M. S., O'Donovan, A., Blackburn, E., Cawthon, R., Koster, A., ... & Epel, E. (2013). Educational attainment and late life telomere length in the Health, Aging and Body Composition Study. *Brain, behavior, and immunity*, 27, 15-21.
- Afzal, M., Malik, M.E., Begum, I., Sarwar, K. and Fatima, H. (2012). Relationship among Education, Poverty and Economic Growth in Pakistan: An Econometric Analysis. *Journal of Elementary Education*, 22, 23-45.
- Akram, N., Ihtsham ul Haq Padda, & Khan, M. (2008). The long term impact of health on economic growth in Pakistan. *The Pakistan Development Review*, 487-500.
- Allen, T., & Thomas, A. (2000). *Poverty and development into the 21st century*. Oxford: Oxford University Press.
- Anand, S., & Ravallion, M. (1993). Human development in poor countries: on the role of private incomes and public services. *The Journal of Economic Perspectives*, 7(1), 133-150.
- Arksey, H. & Knight, P. (1999). *Interviewing social scientists*. London: Sage Publications.

- Asgar, N., Azim, P., & Rehman, H. (2011). Impact of Government Spending in Social Sectors on Economic Growth: A Case Study of Pakistan. *Journal of Business & Economics*, 3(2), 214-234.
- Asif Bajwa. (2015). *COMPENDIUM ON ENVIRONMENT STATISTICS OF PAKISTAN 2015* (pp. 1-270). Islamabad: Pakistan Bureau of Statistics Government of Pakistan ISLAMABAD
- Aziz, B., Khan, T., & Aziz, S. (2008). Impact of higher education on economic growth of Pakistan..
- Babbie, S. (1998). *The Practice of Social Research* (8th ed.). Wadsworth Publishing.
- Batool, Z., & Qureshi, R. H. (2007). Quality assurance manual for higher education in Pakistan. *Higher Education Commission, Pakistan*.
- Becker, G. (1992). *Human capital and the economy*. Proceedings of the American Philosophical Society, 136(1), 85–92.
- Becker, G. (1993). Nobel lecture: The economic way of looking at behaviour. *The Journal of Political Economy*, 101(3), 385–409.
- Becker, G. (2002). Human capital. Paper given at the University of Montevideo. Retrieved from <http://www.um.edu.uy/docs/revistafcee/2002/humancapitalBecker.pdf>
- Becker, G. S., Murphy, K. M., & Tamura, R. (1990). Human capital, fertility, and economic growth. *Journal of political economy*, 98(5, Part 2), S12-S37.
- Benos, N., & Zotou, S. (2014). Education and economic growth: A meta-regression analysis. *World Development*, 64, 669-689.
- Bloom, D., Canning, D., Chan, K., & Luca, D. (2014). Higher Education and Economic Growth in Africa. *International Journal Of African Higher Education*, 1(1).  
<http://dx.doi.org/10.6017/ijahe.v1i1.564>
- Bryman, A., & Bell, E. (2007). *Business research methods*. Oxford: Oxford University Press.
- Cooper, D. R., & Schindler, P. S. (2008). *Business research methods*. Boston: McGraw-Hill.
- Bryman, A. (2004). *Social research methods*. Oxford: Oxford University Press.

- Bryman, A. (2001). *Social Research Methods*. Oxford: Oxford University Press.
- Brunello, G., Garibaldi, P. and E. Wasmer. (2009). *Education and Training in Europe*. Oxford: Oxford University Press.
- Chaudhary, A. R., Iqbal, A., & Gillani, S. Y. M. (2009). The nexus between higher education and economic growth: An empirical investigation for Pakistan. *Pakistan Journal of Commerce and Social Sciences*, 3(1), 1-9.
- Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., ... & Cutler, D. (2016). The association between income and life expectancy in the United States, 2001-2014. *Jama*, 315(16), 1750-1766.
- Castro-Leal, F., Dayton, J., Demery, L., & Mehra, K. (1999). Public social spending in Africa: do the poor benefit? *The World Bank Research Observer*, 14(1), 49-72.
- Chen, B., & Feng, Y. (2000). Determinants of economic growth in China: Private enterprise, education, and openness. *China Economic Review*, 11(1), 1-15.
- Cuaresma, J. C., Doppelhofer, G., & Feldkircher, M. (2014). The determinants of economic growth in European regions. *Regional Studies*, 48(1), 44-67.
- Development, H. (2017). Secondary Data - Meaning, its advantages and disadvantages. Managementstudyguide.com. Retrieved 23 May 2017, from [http://www.managementstudyguide.com/secondary\\_data.htm](http://www.managementstudyguide.com/secondary_data.htm)
- Dowd, J. B., & Hamoudi, A. (2015). Life Expectancy and Education. *American journal of public health*, 105(1), e1.
- Eddison (1998). Education for sustainability. *Environmentalist*, The, 19(2), 175. Fox, j. (1991).
- Easterly, W. (2001). The political economy of growth without development: A case study of Pakistan. Paper for the Analytical Narratives of Growth Project, Kennedy School of Government, Harvard University.
- Everett, B. G., Rehkopf, D. H., & Rogers, R. G. (2013). The nonlinear relationship between education and mortality: an examination of cohort, race/ethnic, and gender differences. *Population research and policy review*, 32(6), 893-917.



- Feinstein, L., Sabates, R., Anderson, T. M., Sorhaindo, A., & Hammond, C. (2006). What are the effects of education on health? In OECD (Ed.), *Measuring the effects of education on health and civic engagement: Proceedings of the Copenhagen symposium* (pp. 171–313). Paris: OECD Centre for Educational Research and Innovation (CERI).
- Gemmell, N. (1996). Evaluating the impacts of human capital stocks and accumulation on economic growth: some new evidence. *Oxford bulletin of economics and statistics*, 58(1), 9-28.
- Ghauri, P. N., & Grønhaug, K. (2010). *Research methods in business studies*. Harlow: Financial Times Prentice Hall.
- Gibbs, P. (2016). Should contentment be a key aim in higher education?. *Educational Philosophy And Theory*, 49(3), 242-252.  
<http://dx.doi.org/10.1080/00131857.2016.1214898>
- Gillies, D. (2015). Human Capital Theory in Education. *Encyclopedia Of Educational Philosophy And Theory*, 1-5. [http://dx.doi.org/10.1007/978-981-287-532-7\\_254-1](http://dx.doi.org/10.1007/978-981-287-532-7_254-1)
- Gillies, D. (2011). State education as high-yield investment: Human Capital Theory in European policy discourse. *Journal of Pedagogy*, 2(2), 224–245.
- Greene, W. H. (2003). *Econometric analysis*. Pearson Education India.
- Gulliver, J. (2015). *Studies in democracy* (1st ed.). [S.l.]: book on demand ltd.
- Haider, S. Z. (2008). Challenges in higher education: Special reference to Pakistan and South Asian developing countries. *Nonpartisan education review*, 2.
- Hanushek, E. A. (2013). Economic growth in developing countries: The role of human capital. *Economics of Education Review*, 37, 204-212..
- Hawkes, D. and Ugur, M. (2012). *Evidence on the relationship between education, skills and economic growth in low-income countries: A systematic review*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.
- HDR (2001). *Human Development Report*. Making New Technologies Work for Human Development, UNDP.

- Hoodbhoy, P. (2009). Pakistan's Higher Education System— What Went Wrong and How to Fix It. *The Pakistan Development Review*, 48(4 (part II), 581–594.
- Husain, A. R. (2002). Life expectancy in developing countries: a cross-section analysis. *The Bangladesh Development Studies*, 28(1/2), 161-178.
- Huisman, M., Kunst, A. E., Bopp, M., Borgan, J.-K., Borrell, C., Costa, G., Deboosere, P., Gadeyne, S., Glickman, M., Marinacci, Ch., Minder, Ch., Regidor, E., Valkonen, T., Mackenbach, J.P. (2005). Educational inequalities in cause-specific mortality in middleaged and older men and women in eight western European populations. *Lancet*, Vol. 365, pp. 493–500.
- Human Development Index - HDI. (2017). Investopedia. Retrieved 21 May 2017, from <http://www.investopedia.com/terms/h/human-development-index-hdi.asp>
- Jalal-ud-Din, M. (2014). Poverty, Poor Health and Socio-Economic Prosperity: A case study of Pakistan. *Journal of Managerial Sciences*, 8(1).
- Jung, H. S., & Thorbecke, E. (2003). The impact of public education expenditure on human capital, growth, and poverty in Tanzania and Zambia: a general equilibrium approach. *Journal of Policy Modeling*, 25(8), 701-725.
- Kakar, Z. K., Khilji, B. A., & Khan, M. J. (2011). Relationship between education and economic growth in Pakistan: A time series analysis. *Journal of International Academic Research*, 11(1), 27-32.
- Khan, A. H., & Mahmood, N. (1997). Education in Pakistan: Fifty Years of Neglect [with Comments]. *The Pakistan development review*, 647-667.
- Kim, Yong Jin; Terada-Hagiwara, Akiko. (2010). *A Survey on the Relationship between Education and Growth with Implications for Developing Asia*. © Asian Development Bank.
- Kohler, I., Martikainen, P., Smith, K.P., Elo, I. (2008). Educational differences in all-cause mortality by marital status – evidence from Bulgaria, Finland and the United States. *Demographic Research*, Vol. 19, pp. 2011-2042.

- Krishnakumar, J., & Sarti, E. (2014). *An Empirical Investigation of the Relationship Between Globalization and Three Human Development Dimensions: Employment, Education and Health*. Working Paper SNIS) Retrieved from [http://www.snis.ch/system/files/5a\\_final-paper.pdf](http://www.snis.ch/system/files/5a_final-paper.pdf).
- Levine, R., & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. *The American economic review*, 942-963.
- Isani, U. A. (2001). *Higher education in Pakistan* (Doctoral dissertation, National University of Modern Languages, Islamabad).
- Iyavoo, L. (2003). *Health and Social Care partnership provision*. UNIS Library.
- Lynch, R. G., & Oakford, P. (2014). The Economic Benefits of Closing Educational Achievement Gaps: Promoting Growth and Strengthening the Nation by Improving the Educational Outcomes of Children of Color. *Center for American Progress*.
- Mackenbach, J.P., Bos, V., Andersen, O., Cardano, M., Costa, G., Harding, S., Reid, A., Hemström, Ö., Valkonen, T., Kunst, A.E. (2003). Widening socioeconomic inequalities in mortality in six Western European countries. *International Journal of Epidemiology*, Vol. 32, pp. 830–837.
- Malik, S., & Courtney, K. (2011). Higher education and women's empowerment in Pakistan. *Gender and Education*, 23(1), 29-45.
- Mäki, N., Martikainen, P., Eikemo, T., Menvielle, G., Lundberg, O., Östergren, O., ... & Mackenbach, J. P. (2013). Educational differences in disability-free life expectancy: a comparative study of long-standing activity limitation in eight European countries. *Social science & medicine*, 94, 1-8.
- Marmot, M. (2005). Social determinants of health inequalities. *The Lancet*, 365(9464), 1099-1104.
- McMahon, W. (1998). Conceptual framework for the analysis of the social benefits of lifelong learning. *Education Economics*, 6(3), 309–346.
- Memon, G. R. (2007). Education in Pakistan: The key issues, problems and the new challenges. *Journal of Management and Social Sciences*, 3(1), 47-55.

- McGrath, S. (2010). The role of education in development: an educationalist's response to some recent work in development economics. *Comparative Education*, 46(2), 237-253.
- McMahon (1998). Education and growth in East Asia. *Economics of Education Review*, 17(2), 159. McMahon, W. W. (1999). Education and development: measuring the social benefits. Oxford: Oxford university press.
- Mirowsky, J., Ross, C.E. (2003). Education, social status, and health. Nawthorne, NY: Aldine de Gruyter.
- Mughal, S. H., Qaisrani, N., Solangi, G. M., & Faiz, S. (2011). Promoting education for sustainable development: Challenges and issues for higher education institutions in Pakistan. *International Journal of Learning and Development*, 1(1), 159-165.
- Nawab, S., & Bhatti, K. K. (2011). Influence of employee compensation on organizational commitment and job satisfaction: A case study of educational sector of Pakistan. *International Journal of Business and Social Science*, 2(8).
- Neuman, W. (2000). *Social Research Methods: Qualitative and Quantitative Approaches* (4<sup>th</sup> ed.). London: Allyn and Bacon.
- Neumark, D., & Wascher, W. (1995). Minimum wage effects on employment and school enrollment. *Journal of Business & Economic Statistics*, 13(2), 199-206.
- Nowak, A. Z., & Dahal, G. (2016). The contribution of education to economic growth: Evidence from Nepal. *International Journal of Economic Sciences*, 5(2), 22-41.
- O'Connor, A. (2013). A conceptual framework for entrepreneurship education policy: Meeting government and economic purposes. *Journal of Business Venturing*, 28(4), 546-563.
- OECD. (2000). *From initial education to working life*. Paris: OECD.
- Ortega, D. (2010). Human Development of Peoples. *Journal of Human Development and Capabilities*, 11(2), 229-257.
- Psacharopoulos (1988). Education and development: a review. *World Bank Research Observer*, 3(1), 99. Ranis (2000). Economic growth and human development. *World Development*, 28(2), 197.
- Quddus, N. (1990). *Problems of education in Pakistan* (1st ed.). Karachi, Pakistan: Royal Book

Co.

- Ricci, F., & Zachariades, M. (2006). Determinants of public health outcomes: A macroeconomic perspective. *Computing in Economics and Finance*, 2006, 107.
- Riley, G., & Gray, P. (2015). Grown unschoolers' experiences with higher education and employment: Report II on a survey of 75 unschooled adults. *Other Education*, 4(2), 33-53.
- Rogers, R. G., and Wofford, S. (1989). Life expectancy in less developed countries: socio-economic development or public health? *Journal of Bio Sociological Science*, 21(2), 245-252
- Sachs, J. D., & Warner, A. M. (1997). Fundamental sources of long-run growth. *The American economic review*, 87(2), 184-188.
- Sarantakos, S. (1997). *Social Research* (2nd ed.). Hampshire: Palgrave.
- Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research Methods for Business Students*. 6th edition. Pearson Education Limited.
- Schofield, S. & Anderson, A. (1984). *The Research Methodology*. Available at <http://www.alphatink.com.au/-agilbert/ch6.html>
- Schultz, T. P. (1988). Education investments and returns. *Handbook of development economics*, 1, 543-630.
- Schults, T. (2009). *The Gender and General consensus of the Demographic Transition and Population Policy: An Assessment of the Micro and Macro Linkage*. Working paper no. 71, Yale University.
- Schultz, T. (1962). Reflections of investment in man. *The Journal of Political Economy*, 70(6), 1-8.
- Sekaran, U., & Bougie, R. (2010). *Research Methods for Business: A Skill Building Approach*, 5th Edition (5th ed.). John Wiley & Sons, Inc.
- Sekaran, U. (2000). *Research Methods for Business* (3rd ed.). John Wiley and Sons.
- Sekaran, U. (1992). *Research methods for business: a skill-building approach* (2nd ed.). Wiley.

- Shah, R. (2011). Impact of higher education on earnings of women in the public sector educational institutions in Pakistan. *International Business & Economics Research Journal (IBER)*, 6(11).
- Shahbaz, M., Loganathan, N., Mujahid, N., Ali, A., & Nawaz, A. (2016). Determinants of life expectancy and its prospects under the role of economic misery: A case of Pakistan. *Social Indicators Research*, 126(3), 1299-1316.
- Shaw, J. W. Horace, W. C. and Vogel, R. J. (2005). The determinants of life expectancy: An analysis of the OECD health data. *Southern Economic Journal*, 71, 768–783.
- Shkolnikov, E.M., Andreev, E.M., Jasilionis, D., Leinsalu, M., Antonova, O.I., McKee, M. (2006). The changing relation between education and life expectancy in central and eastern Europe in the 1990s. *Journal of Epidemiology and Community Health*, Vol.60(10), pp.875- 881.
- Siphambe, H. K. (2000). Rates of return to education in Botswana. *Economics of Education Review*, 19(3), 291-300.
- Starfield Husain, A., B., and Shi, L. (2002). Policy relevant determinants of health: an international perspective. *Health Policy*, 60(3), 201-218.
- Striessnig, E., Lutz, W., & Patt, A. (2013). Effects of educational attainment on climate risk vulnerability. *Ecology and Society*, 18(1), 16.
- Tauqir, S. R., Hussain, S. S., & Azhar, S. M. (2014). The Role of Vice Chancellors to Promote Higher Education in Pakistan: A Critical Review of Higher Education Commission (HEC) Pakistan's Reforms, 2002. *South Asian Journal of Management Sciences (SAJMS)*, Iqra University, 8(1), 46-59.
- The World Bank. *PAKISTAN: Country Summary of Higher Education* (pp. 1-2). World bank org.
- Torrini, R. (2005). Cross-country differences in self-employment rates: The role of institutions. *Labour Economics*, 12(5), 661-683.
- United Nations Development Programme. (2007). Human development report 2007/2008. Fighting climate change: Solidarity in a divided world. New York: Palgrave Macmillan.

Valkonen, T. (2001). Trends in differential mortality in European countries. In: Trends in mortality and differential mortality. Population Studies, No. 36, pp. 185-332.

Veal, J. (1997). *Research Methods for Leisure and Tourism: A practical guide* (2<sup>nd</sup> ed.). London: Prentice Hall.

Wilkinson, R. G. (1992). Income distribution and life expectancy. BMJ: British Medical Journal, 304(6820), 165.